

A STUDY OF ASPECTS OF THE INTERNATIONAL LEGAL AND ORGANISATIONAL
RESPONSE TO THE PROBLEM OF MARINE POLLUTION

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ABSTRACT OF THESIS

Principles adopted by the 1972 Stockholm Conference on the Human Environment call for the development of international law to control marine pollution, for addressing marine pollution in international organisations, and for coordinated work by these organisations. These are the subjects studied in the thesis, that is, the legal and organisational response to marine pollution and the issue of coordination among international organisations concerned with marine pollution.

In evaluating the adequacy of the legal response, emphasis is given marine pollution control conventions. These agreements are assessed by studying how effectively they have been developed. Examination of the organisational response is directed at the marine pollution activities of eight global and six European international organisations. Considering the many organisations involved with marine pollution and the numerous administering institutions created by most of the conventions, questions arise about effective coordination within this complex network. The formal mechanisms to facilitate coordination -- as well as an array of informal coordinating mechanisms -- are described and evaluated.

The thesis concludes that the organisations concerned with marine pollution cooperate better than is thought, that coordination is not the key to protecting marine resources, and that the concern for adequate coordination has numerous tenets, many of which may be legitimately questioned. It is also concluded that the international community is responding commendably to marine pollution and that the response takes place in international organisations and in the direct development of law. The organisational and legal responses are not, however, independent. Organisations stimulate law and are stimulated by it. The marine pollution control conventions have laid the foundation for a sound legal regime protective of the oceans. The necessary institutional arrangements have been established to study marine pollution, disseminate information about this problem, and continue the development of international environmental law. In sum, the international community has established a legal and organisational framework for control of marine pollution, a framework that only awaits broader acceptance and fuller implementation for it to adequately protect the oceans.

FOR MY HONOURABLE MOTHER AND FATHER

In accordance with Rule 2.4.11 of the Postgraduate Study Regulations, part of the material on pages 37-48 appeared in, Carvell, "The North Dakota Garrison Diversion Project and International Environmental Law," 60 North Dakota Law Review 603-57 (1984), and part of the material on pages 86-91 appeared in, Carvell, "The London Dumping Convention's Ninth Consultative Meeting: A Pivotal Event," 16 Marine Pollution Bulletin 265-67 (1985).

In accordance with Rule 2.4.15 of the Postgraduate Study Regulations, I hereby declare that this thesis has been composed by myself and is my own work.

Charles M. Carvell
12 July 1986

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LIST OF ABBREVIATIONS

ACC	Administrative Committee on Coordination
ACMRR	Advisory Committee of Experts on Marine Resources and Research
BMP	Baltic Monitoring Programme
BAREP	Baltic Position Reporting System
CCMS	Committee on the Challenges of Modern Society
CCSQ(PROG)	Consultative Committee for Substantive Questions for Programme Matters
COFI	Committee on Fisheries
COPA	Cross-Organisational Programme Analysis
CPC	Committee on Programming and Coordinating
DCEM standards	Design, construction, equipment, and manning standards
DOEM	Designated Officials for Environmental Matters
ECB	Environmental Coordinating Board
ECE	Economic Commission for Europe
ECE Convention	Long-Range Transboundary Air Pollution Convention
ECOSOC	Economic and Social Council
ECUs	Environmental Coordinating Units
EGC	Expert Group in Combating Matters
EMEP	European Monitoring and Environmental Programme
FAO	Food and Agricultural Organisation
GEMS	Global Environmental Monitoring System
GESAMP	Joint Group of Experts on Scientific Aspects of Marine Pollution
GFCM	General Fisheries Council for the Mediterranean
GIPME	Global Investigation of Pollution in the Marine Environment
HELCOM	Helsinki Convention
HSC	High Seas Convention
IAEA	International Atomic Energy Agency
ICJ	International Court of Justice
ICSPRO	Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography
IGO	Inter-governmental Organisation
ILM	International Legal Materials
ILO	International Labour Organisation
IMO	International Maritime Organisation
IMDG Code	International Maritime Dangerous Goods Code
IOC	Intergovernmental Oceanographic Commission
IODE	International Ocean Data Exchange
ISBA	International Sea-Bed Authority
IUCN	International Union for Conservation of Nature and Natural Resources
JMG	Joint Monitoring Group
JMP	Joint Monitoring Programme
LDC	London Dumping Convention
LEPOR	Long-Term and Expanded Programme of Oceanic Exploration and Research
LOSC	Law of the Sea Convention
MAP	Mediterranean Action Plan
MARPOL 73/78	Convention for the Prevention of Pollution from Ships

MED POL	Mediterranean Pollution Research Programme
MEPC	Marine Environment Protection Committee
MPB	Marine Pollution Bulletin
NATO	North Atlantic Treaty Organisation
NCM	Nordic Council of Ministers
NEA	Nuclear Energy Agency
New Dir.	New Directions in the Law of the Sea, editors Robin Churchill and K.R. Simmonds
NGO	Non-governmental Organisation
ODC	Oslo Dumping Convention
OECD	Organisation for Economic Cooperation and Development
OILPOL Convention	International Convention for the Prevention of the Sea by Oil
OSCOM	Oslo Commission
OSPARCOM	Oslo and Paris Commissions
P and A Standards	Procedure and Arrangement Standards
PARCOM	Paris Commission
PREPCOM	Preparatory Commission
ROCC	Regional Oil Combating Centre
RSP	Regional Seas Programme
SACSA	Standing Advisory Committee on Scientific Affairs
SBT	Segregated Ballast Tanks
STC	Scientific and Technological Committee
SWMTEP	System-Wide Medium-Term Environment Programme
TS and CZ Convention	Territorial Seas and Contiguous Zone Convention
TWG	Technical Working Group
UNCLOS III	Third United Nations Conference on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNIDO	United Nations Industrial Development Organisation
WHO	World Health Organisation
WHO/EURO	World Health Organisation's Regional Office for Europe

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INTRODUCTION

While the roots of modern environmentalism can be traced to the budding nature conservation movement of the late 1800s and early 1900s,¹ it has been only within the last two decades that environmentalism has risen to the forefront of public concern. The awakening was spawned by the combination of the development of nuclear power, the publication of Silent Spring, and a series of oil tanker accidents. The advent of nuclear capability and its uses produced emotional demands for strict control. Atmospheric hydrogen bomb tests over the Pacific Ocean and the consequent immediate and genetic harm to Japanese fishermen alarmed the international community about the danger accompanying the revolutionary development of nuclear power. These fears gradually intensified with the recognition that the production of energy from nuclear processes brought risks of radiation contamination from accidental and operational discharges. The second event that spurred man's environmental conscious occurred in 1962 with the publication of Rachel Carson's Silent Spring.² Carson persuasively argued man was misusing chemicals and that nature's inability to adapt to the input of wastes augured rapid deterioration of man's natural heritage. Carson succeeded in her goal to frighten. Last, oil tanker collisions and groundings in the 1960s provided graphic evidence that advances in technology imposed costs to be paid for by loss of flora and fauna.

By the time the 1960s ended, it was recognised that the environment was endangered. But much of the initial legal response to the situation took place within the realm of national law.³ International efforts before 1967 can "be regarded as belonging to a 'prehistoric era' of marine pollution control."⁴ Yet some problems were -- and remain -- international that no state, no matter how vigorous its environmental laws, can alleviate. Such is often perceived to be the case with marine pollution. For example, ships flying the flag of one state may trade in a number of foreign ports, traverse the territorial sea and exclusive economic zone of many countries, and cross the high seas of many oceans. This activity can result in a damaged environment. Oil and chemical tankers are sometimes involved in collisions or pushed onto rocks by foul weather or mechanical failure, resulting in the release of their cargo. Such ships also discharge cargo residue as part of their opera-

tions. The international character of marine pollution is also represented by land-based pollution. All states allow contaminants to be discharged from land into the sea and these can be carried by currents to the high seas or waters of neighbouring states.

The uniqueness of marine pollution was recognised early regarding oil pollution from ships and conventions were adopted to control this contamination.⁵ Treaties were also agreed to for several subjects arising from the development of nuclear power.⁶ But this fragmentary, uncomprehensive approach was believed inadequate. Thus, in 1969 the United Nations General Assembly asked states to gather in Stockholm for a conference on the environment to "serve as a practical means to encourage, and to provide guidelines for, actions by governments and international organisations designed to protect and improve the human environment and to remedy and prevent its impairment, by means of international cooperation..."⁷ The Stockholm Conference on the Human Environment was held in 1972. The Declaration it adopted is a formulation of international environmental policy⁸ and marks the beginning of a concerted international effort to respond comprehensively to environmental problems.

The Declaration comprises a number of principles and over a hundred recommendations. Some of the principles call upon states to develop international law⁹ and to ensure "that international organisations play a co-ordinated, efficient and dynamic role for the protection and improvement of the environment."¹⁰ While most of the recommendations are applicable to environmental problems generally, a number specifically deal with marine pollution.¹¹ Here appear calls for international cooperative action within and apart from international organisations, scientific study of marine pollution, and development of international controls over activities that pollute the seas.

The Stockholm Declaration, with its call for more international law, for addressing problems of marine pollution within international organisations, and for coordinated work by organisations, raises the three subjects studied in this thesis: the organisational and legal response to marine pollution and coordination among intergovernmental organisations (IGOs) concerned with marine pollution. These subjects are not distinct. The legal response is heavily dependent upon IGOs and the coordination issue is entwined with the legal and organisational responses.

The thesis' examination of the international legal response

concentrates less on description than on evaluation. The discussion is divided into convention and nonconvention-based rules for the environmental law of the sea. Regarding nonconvention-based rules, a short review of customary law is offered. Primarily because customary law usually takes a number of years to develop and since environmental problems only recently have been recognised, the usefulness of customary law is found to be severely limited. Next, a summary evaluation of judicial decisions is presented with the conclusion that these explanations of international law are distinctly unhelpful for fashioning a regime for the preservation of the marine environment. The decisions examined are the International Court of Justice's (ICJ) Corfu Channel Case and Nuclear Tests Cases as well as the international arbitrations of Trail Smelter, Lake Lanoux, and Gut Dam. A few summary points are made on national case law. Last, several broad observations are made about some general principles of law, primarily the abuse of rights doctrine, and their value for international law.

Following this evaluation of nonconventional international law, the thesis examines conventions with the hope of finding a sounder regime. The review of conventions is not, however, comprehensive. Beyond the scope of the thesis are treaties dealing with liability and compensation as well as intervention conventions. Included are the 1958 Geneva Conventions and the 1982 Law of the Sea Convention (LOSC). A number of specifically marine pollution control treaties are also studied. These are divided into global and regional. The former include the London Dumping Convention (LDC) and the Convention for the Prevention of Pollution from Ships (MARPOL). The regional treaties studied include the Paris Convention on Land-Based Sources, the Convention on Long-Range Transboundary Air Pollution (ECE Convention), the Oslo Dumping Convention (ODC), the Helsinki Convention for the Protection of the Baltic Sea, and the Barcelona Convention for the Protection of the Mediterranean Sea. The methodology used in scrutinizing the specifically marine pollution control treaties is not by an examination of their terms alone, something that has been done extensively in other studies. Rather, their value is assessed by studying how effectively they have been implemented, interpreted, and developed by the institutions set up to administer them.

Adopting a convention is a complex task.¹² "No problem of international law...can be viewed realistically [outside] its context

of underlying political, economic, sociological, scientific, technological, and other factors, and no solution to an international law problem can be achieved which does not accomodate these...realities."¹³ Marine pollution is a complex problem involving all these factors.¹⁴

Scientists disagree about the effects of marine pollution and some about its very existence. Economic ramifications of pollution control can be severe. Consequently, less developed countries (LDCs) are concerned that their industrialization not be impeded by international regulations.¹⁵ Despite the fact that different levels of economic development are irrelevant to the consequences of pollution, the position of LDCs has often led to double standards in international agreements, with stricter controls placed on developed countries than undeveloped ones. It has also led to the inclusion in treaties of provisions on development aid and transfer of technology. The economic controls of pollution control also influence developed countries where environmental problems are typically viewed as minor consequences of more important economic activities. Most developed states believe the costs of complete protection too high, particularly during a time of economic recession. Even marginal protection is not easily agreed upon by this group of states, for their commercial interests may be damaged by agreeing to pollution controls, particularly when some of their competitors for international business are not parties to an agreement. The inevitable compromises more likely favour commerce.¹⁶ Furthermore, because of "pride of sovereignty," states are reluctant to allow any international control over activities conducted on their land territory, where the most serious marine environmental problems originate.¹⁷ Thus, only ship pollution, which presents less sensitive political problems, is governed by a reasonably well-developed international law. All of these, and other, "complicating factors," significantly affect the ability and willingness of states to agree upon strong measures.

Nonetheless, important advances have been made in preserving the marine environment through the adoption and implementation of treaties, but the system cannot be considered satisfactory. As IGOs, global and regional, together possess considerable capabilities to address marine pollution and strengthen law, the thesis goes on to examine the organisational response to marine pollution. Protection of the oceans depends in part upon the ability of IGOs to develop prospective international legal norms and push along their gradual acceptance, develop acceptable codes of conduct, facilitate the progressive development of conventions

for which they act as Secretariats, assist states in expanding their marine science capabilities, provide forums where states may meet to discuss pollution control mechanisms, and study polluting activities and the marine environment in order to provide states with sound, timely information with which they may protect their coastal areas and develop the international environmental law of the sea.

There are 250 international organisations with ocean activities,¹⁹ while about 150 of these are nongovernmental organisations (NGOs) composed of individuals linked by a common, usually scientific, interest, 100 or so are intergovernmental.²⁰ Tables in a recent issue of Marine Policy set forth 41 regional organisations and 37 global organisations involved with marine pollution.²¹ A 1983 United Nations study lists 17 United Nations bodies and 11 specialized agencies active in marine pollution.²² The primary global bodies for marine pollution activities are the United Nations Environment Programme (UNEP), the International Maritime Organisation (IMO), the International Sea-Bed Authority (ISBA), the International Atomic Energy Agency (IAEA), the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and its Intergovernmental Oceanographic Commission (IOC), the Food and Agricultural Organisation (FAO), the World Health Organisation (WHO), and the World Meteorological Organisation (WMO).²³

UNEP has a mandate to address all environmental problems and has developed a Regional Seas Programme that now includes ten regions. In these regions UNEP promotes national environmental management programmes for the protection of coastal areas and international agreements to control marine pollution. IMO has significant activities involving control of ship pollution. The ISBA is concerned with the environmental consequences of commercial exploration and exploitation of the deep seabed.²⁴ The IAEA is responsible for problems arising from radioactive waste disposal into the sea. UNESCO and its IOC endeavour to develop marine science capabilities of states and organise cooperative scientific investigations of marine pollution. FAO is interested in marine pollution where it harms living resources and interferes with fishing operations. WHO has activities relating to human health aspects of marine pollution and WMO studies transfer processes of air pollutants from land to sea. Each of these global IGOs is discussed in the thesis with an emphasis on their marine pollution activities and how they are able to contribute to the development of international law.

As mentioned, there are also a number of regional IGOs con-

cerned with the health of the oceans. The thesis, however, is directed only at regional activities in Europe, and primarily Western Europe. The reasons for this concentration are several. One, regional organisations proliferate in Europe. Two, European bodies generally entered the environmental field before those in other areas and have developed beyond others in the scope of their functions and legislative powers. Three, most of the legal response to marine pollution through conventions is concentrated in Europe and the emphasis on European IGOs provides a link between the thesis' discussions of the legal and organisational response to marine pollution.

As with the global organisations, it is the marine pollution activities of the regional IGOs and how they contribute to international law that are the emphasis of their discussion. The European bodies examined are the European Economic Community (EEC), the Council of Europe, the Organisation for Economic Cooperation and Development (OECD), the Economic Commission for Europe (ECE), the bodies of Nordic Cooperation, and the North Atlantic Treaty Organisation's Committee on the Challenges of Modern Society (NATO's CCMS). These organisations were chosen because of the breadth of their memberships and overall prominence in European affairs. Their marine pollution activities cannot easily be delineated, as were those of the global bodies, because the interests of regional IGOs are generally wide-ranging, leading to programmes on a number of aspects of marine pollution.

Besides the many global and regional IGOs with marine pollution activities, the marine pollution control conventions mentioned above have themselves created IGOs. These treaties are not self-executory. Rather, an institution, usually termed a commission, is established to administer and oversee implementation. Success or failure of a treaty is more likely dependent upon the actions of the commission after the treaty is in force than upon convention terms. A treaty without vigorous provisions may nonetheless prove effective, while one with stronger provisions may fail to meet expectations because of its commission's inability to implement and develop it. Therefore, the commissions, which are a form of IGO, play a significant role and exemplify the meshing of the legal and organisational response.

This interdependence and the role of IGOs in furthering the legal response are highlighted by the LOSC. This treaty, which may well enter into force, contains a long section on environmental protection. The environmental articles, however, are generally devoid of specific environmental duties. What the provisions do is direct states to the

"competent international organisation" and there to set specific obligations for each of the sources of marine pollution. Which IGO is the "competent" one to address which source of pollution is not clarified. What is known, however, is that the development of the treaty and, hence, international environmental law is likely to be carried out under the auspices of IGOs. These bodies, therefore, take on added importance further warranting a survey of their activities. Such a survey, it is hoped, will aid in ascertaining which IGOs are to handle which of the sources of marine pollution.

The global and regional IGOs, along with the commissions, thus make up a complex network of organisations.²⁵ There are a welter of global, regional, and functional bodies addressing marine pollution, and it is likely their number will grow. Yet none alone has the constitutional powers, technical ability, appropriate membership, or sufficient resources to preserve the marine environment. None operate at all the levels where a forceful legal regime needs to exist. It has, therefore, been hypothesized that there is a need for the organisations to cooperate, to draw upon the various capabilities of the entire network through joint planning and execution to obtain the common goal of cleaner seas. Of course, there are other problems that beset IGOs, such as questions of mismanagement as plague UNESCO and debilitating political bickering by member states. The causes and consequences of such problems, as well as others, for building an effective legal regime deserve attention. Yet regarding marine pollution, one issue, coordination, has received considerable attention by the organisational network. Furthermore, many writers have argued that present coordination of marine pollution activities by organisations is unsatisfactory. Boczek, for example, states: "The international legal and organisational environmental protection network must be tightened, better coordinated and harmonized by establishing links between the global and regional arrangements and programmes within the one region..."²⁶ Such an argument is founded on the idea that close coordination is needed if all available resources within the network are to be brought fully to bear to effectively handle marine pollution, particularly since these resources are limited.

While the issue of coordination is relevant to the legal response -- for, as mentioned, organisations are intimately involved in developing environmental law and administering conventions -- the discussion of coordination will take place primarily along with the survey

of the organisational response. Coordination is more clearly involved, and its lack of more often asserted, in the context of the overall functioning of IGOs than in those organisations' specific role in the legal response to marine pollution.

Analysis of the coordination issue includes several areas. After surveying the numerous complaints about poor coordination of marine pollution control activities, the thesis examines several reasons why coordinating IGOs is not simple. These reasons include the decentralized United Nations system, the trend to regionalism, the unique complexity of environmental problems, and the effect upon IGO coordination of the lack of coordination within national governments. The legal framework for interorganisational cooperation is also examined. This includes coordination provisions in the United Nations Charter, the relationship agreements between the United Nations and the specialized agencies, inter-agency cooperation agreements, and coordination provisions in marine pollution control conventions and in constituting instruments of the regional conventions.

The organisational network has long been concerned with coordination and numerous mechanisms for improving collaboration have been established. These include the Administrative Committee on Coordination (ACC) and its subsidiary bodies on marine affairs and environmental matters, the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO), the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), and UNEP's Regional Seas Programme as well as its efforts to develop a System-Wide Medium-Term Environmental Plan (SWMTEP). There are also general coordinating responsibilities for the United Nations Economic and Social Council (ECOSOC) and General Assembly. Each of these coordinating mechanisms is described and assessed. While most of the institutionalized coordinating machinery is found to be ineffective, a broad range of noninstitutionalized machinery, such as joint sessions, harmonized reporting, and liaisons, are also examined and evaluated as having performed reasonably well. The final section on the coordination issue submits that there is a good deal of coordination among global and regional IGOs and questions the continued avid pursuit of coordinating marine pollution activities.

To summarize, the themes of the thesis are two. The first is an effort to determine the adequacy of the international community's response to marine pollution. This study begins by examining nonconvention-based rules of the international environmental law of the sea and, upon

finding these woefully insufficient, critically reviews conventions. Although marine pollution control treaties provide encouragement that the vitality of the seas will be retained and offer potential for further securing that goal, they alone are insufficient. Consequently, one must look to IGOs in the hope of finding activities or possibilities for advancing the common goal of healthy seas. A number of conventions themselves rely upon IGOs for administration. Finding a plethora of organisations, global and regional, involved in this endeavour, a survey is made of their activities and of a potential problem that may inhibit their work, lack of coordination.

The second theme of the thesis, interlaced with the first, is the idea that the international community's response to the problem of marine pollution is one that proceeds at various levels, globally, regionally, bilaterally, and that the fruits of this effort are variously manifested by declarations, recommendations, codes of conduct, draft conventions, scientific research, information dissemination, and adopted and ratified conventions. It is a complex response with interdependent components. What is pervasive within this response is the presence of IGOs. There is considerable interplay between organisations and law and, in fact, the implementation and development of the only significant part of the legal regime, the conventions, is largely dependent upon the work of organisations. Because the presence of IGOs permeates the response to marine pollution and because their role is significant, and seemingly bound to become more so, it is best they operate smoothly, or, as the Stockholm Declaration says, "that international organisations play a co-ordinated, efficient and dynamic role for the protection and improvement of the environment."²⁷ Thus enters the coordination issue. It is not only an important one, considering the great number of organisations involved, but also timely considering both the often heard complaint that IGOs do not sufficiently collaborate and the renewed emphasis placed on organisations by the LOSC.

PART I: AN INTRODUCTION TO THE PROBLEMS OF MARINE POLLUTION AND
INTERORGANISATIONAL COORDINATION

CHAPTER ONE

AN OVERVIEW OF MARINE POLLUTION

A. Introduction

This chapter provides an overview of marine pollution. It begins with defining "marine pollution," a necessary exercise because the concept is the focal point of the thesis and there is a need to determine what the international community considers significant pollution giving rise to legal responsibilities.

The various sources of marine pollution are set forth along with a sampling of the kinds of wastes and amounts each source brings to the seas. Such information provides not only background to the problem but is necessary for two reasons. First, to assess the effectiveness of the legal and organisational response to marine pollution one must know if the sources causing the most environmental harm are being addressed. Second, some parts of the legal regime, such as the LOSC, impose different obligations and grant varying rights depending upon the pollution source. Thus, a basic knowledge of the sources is helpful in understanding the regime itself. The chapter concludes with a survey of literature on the health of the oceans. Determining the well-being of the seas and which areas of it are suffering is also necessary in deciding whether the response of the world community is being directed where it should.

B. Defining "Marine Pollution"

1. Approaches to Defining "Pollution"

Different approaches can be taken to defining "pollution," each of which is founded upon a philosophical view of the problem and its underlying economic, ethical, social, and political circumstances.²⁸ Hence, "pollution" can have many definitions.

There are two extreme approaches. One is referred to as the "purity" approach and defines "pollution" "as any alteration of the existing environment."²⁹ The other is more a policy than definition, proclaiming state sovereignty gives the right to pollute without the

need to consider the interests of other states.³⁰ In other contexts, particularly involving international rivers, these two approaches are known as the doctrines of absolute territorial sovereignty and absolute territorial integrity.³¹ Under absolute territorial integrity, natural resources and interests of a state may not suffer outside interference, even minimally. On the other hand, absolute territorial sovereignty gives a state the unfettered right to do what it wishes with its natural resources even if doing so causes damage to another state.

Falling between these extremes are three other approaches. The first is pollution considered as damage and is made up of two prongs. One focuses on what damage is done to man and his property, and the other, rejecting the narrowness of a concept restricted to damage to human interests, considers damage to the environment itself as legally significant.³² The second middle approach focuses on man's uses of the environment and how pollution interferes with these uses.³³ This formulation has the drawback of disregarding harm to the environment itself, concentrating, as it does, solely on the environment as it is useful to man. The third middle position views pollution as a waste that exceeds the environment's assimilative capacity.³⁴

2. "Marine Pollution"

a. A Politically and Scientifically Acceptable Definition

The three basic approaches may properly be integrated in developing a definition of "marine pollution," and should to give comprehensiveness to the definition as, individually, each has weaknesses. Indeed, it has been the practice of states in defining the term in recent international agreements to combine two or more of the approaches, thus, all three reflect existing opinion.

The essence of "marine pollution" is well established in international law. Article 1(4) of the LOSC contains the most recent formulation:

"Pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.^{34a}

For the purposes of the thesis, this definition is accepted for two reasons. It has won political acceptance and has a sound scientific basis.

The definition's political acceptance has a long pedigree. "Marine pollution," and similar terms, have been defined in a number of conventions and most of the definitions bear close resemblance to the LOSC's.³⁵ Also, Principle 7 of the Stockholm Declaration follows the tenor of the definition³⁶ as do the formulations of national and international bodies.³⁷ The definition's scientific validity rests on its close similarity to the definition accepted by GESAMP.³⁸ The GESAMP definition was itself based on one devised by the Scientific Committee on Oceanic Research/Advisory Committee on Marine Resource Working Group and accepted by IOC.³⁹

b. Analysis of the Definition

Since the LOSC definition represents a general consensus in defining "marine pollution," it will be helpful to take a closer look at it.

The definition begins with the phrase "the introduction by man." Man is thus the only polluting agent. Nature, although it puts contaminants into the oceans by, for example, oil seepage from underground deposits, is not recognised as a polluter. Although some definitions of pollution include natural processes,⁴⁰ these are inherently ambiguous for they conclude that nature can pollute itself. As all processes of nature are part of a complex system that determines the natural state of the oceans, it is difficult to follow the argument that one part of nature can cause damage to another.⁴¹ The focus on human activity is appropriate. Furthermore, a legal definition must necessarily be anthropocentric.

The use of the word "introduction," however, gives rise to a problem. Not all environmental harm to the oceans is caused by man's introduction of substances. Deepsea mining, for example, will be done by either sucking or scraping nodules from the ocean floor. This process will disrupt benthic life and destroy some of it. It may be argued that during this process man will not be "introducing substances," only disturbing the marine environment. Likewise, nuclear waste may be implanted under the ocean floor and if holes need to be drilled for this disposal whatever harm done might not constitute marine pollution. The requirement of "introduction," therefore, gives cause for concern about the adequacy of the definition and is an example of law outpaced by technology. The definition of "marine pollution" must, therefore, never be definitive.⁴² Because of the problems "introduction" causes, arguments

have been made that the definition should exclude reference to "introduction" and focus instead on "change" of the marine environment. The environmental consequences of deepsea mining and nuclear waste emplacement would thus fall within the definition.

After beginning with "pollution...means the introduction by man," the LOSC definition goes on to state that polluting activity is the introduction "directly or indirectly, of substances or energy." The wide breadth of this phrase is helpful. Direct polluting activity, such as dumping, falls within the definition as does indirect pollution, as that reaching the oceans through the atmosphere. "Substances" covers all man's waste products.

Next, a caveat appears in the definition. Only the introduction of those substances "which results or is likely to result in such deleterious effects" are included. Pollution is not just the presence of an alien substance in the seas; there needs to be a negative consequence or its probability. Adding the likelihood of harm has the advantage of caution. Little is known about many wastes and it may be wiser to regulate those that probably will be harmful than to wait until the harm appears.⁴³ The inclusion of likelihood has been seen, on the other hand, as too broad. Some scientists argue that the oceans ought to be viewed as a valuable resource for waste disposal and that it is foolish not to use it fully or to wait for proof that a disposal activity is harmless.⁴⁴ Yet, the LOSC definition does require at least the probability of harm before labelling something as pollution. This allows considerable room for the oceans to be used as a disposal resource.

The definition concludes with a list of six undesirable effects by which marine pollution is manifested: harm to living resources, harm to marine life, hazards to human health, hindrance of legitimate uses of the sea, impairment of quality for use of sea water, and reduction of amenities. It is clear that the definition combines several of the approaches described above. Taken into consideration is damage to marine life as well as man's interests. Of the six effects, harm to marine life is the one added to the GESAMP definition by the statesmen at the Third United Nations Conference on the Law of the Sea (UNCLOS III). Inclusion of "marine life" represents broader appreciation of nature. Recognising that marine life, whether or not man makes use of it, needs protection is a more enlightened, ecological view.

Yet the definition has been viewed as insufficiently ecological in that it requires harm before responsibility attaches. It has been

contended that "change" should be substituted for "harm."⁴⁵ This sentiment is an example of the "purity" approach mentioned above. Were this the standard, recognition of the oceans as a waste disposal medium would be lost. All forms of disposal into the marine environment produce changes, but these may be harmless and, if not, will often pass quickly. Even the passage of a single large trawler will cause incidental destruction of small fish on a vastly greater scale than most waste disposal activities.⁴⁶ The "purity" approach would thus deem the mere passage of a ship as marine pollution. It is better to include the element of harm.

The six deleterious effects of the LOSC definition are unquantified and not subject to objective determination. Yet, it is probably better that "harm," "hazard," etc. remain unquantified so that the definition retains flexibility. Were the deleterious effects qualified by a high standard, such as "serious" or "grave," most polluting activity would remain unchallenged because rarely does a single act of disposal result in damage. It is the cumulative effect of many kinds of waste from many sources that typically harms the marine environment. Requiring "serious" harm may result in overlooking the gradual changes that have even greater long-term impact.⁴⁷ At the other extreme, requiring low levels of acceptable damage would unwisely "demand a costly and relatively unrewarded 'cleaning up' operation."⁴⁸ By leaving the harm unquantified and unelaborated, the definition creates problems of application, but by requiring a particular kind of harm it would be largely useless for marine pollution control purposes.

Springer states that a general concept of pollution must include a means for determining the threshold of "what is and what is not legally significant pollution, what demands regulation and what does not."⁴⁹ The definition accepted here does not fully accomplish this. It requires supplementation with ideas of how best to manage the marine environment and with criteria to determine what activities are environmentally acceptable. But the construction does satisfy the need for a working definition for the purposes of international law, providing a sound framework that allows international lawyers and statesmen to enhance with ecostandards.

C. The Sources of Marine Pollution

The sources of marine pollution are generally classified into five or six categories.⁵⁰ The six are ship pollution, dumping, land-based, atmospheric, offshore exploration and exploitation, and

deepsea exploration and exploitation. Although discussions of marine pollution sources are commonly found in legal literature, it is necessary to include a short review of the subject to provide a framework for the subsequent discussion and evaluation of the international legal and organisational response to marine pollution.

1. Ship Pollution

Ships pollute the marine environment in several ways. Contamination often results when cargo is lost overboard in foul weather and when cargo and fuel is lost in a maritime casualty. Neither losing a hazardous cargo in rough seas nor shipping accidents are uncommon.⁵¹ In a January 1984 storm sixteen tonnes of herbicide were swept off a Danish freighter into the North Sea.⁵² A five week search for the eighty drums of poison was unsuccessful.⁵³ That same year the North Sea was also the site of a collision between a French cargo ship and a West German ferry.⁵⁴ The French vessel sank and took to the seabed its cargo of thirty barrels of highly radioactive gas, uranium hexafluoride.⁵⁵

Ships also cause oceanic pollution by operational discharge of cargo.⁵⁶ This involves such procedures as deballasting, tank washing, and bilge pumping. Although it is incidents as those described above that capture headlines, operational discharges are a greater cause for concern. Based on statistics from the 1970s, of the 3.3 million metric tons of oil estimated to enter the oceans each year, 1.5 million come from ships, most of which, 80%, results from operational discharges.⁵⁷

2. Dumping

Dumping accounts for about 10% of the pollutants entering the marine environment⁵⁸ and is defined as "the seaward transport of land-generated wastes by ships, barges, platforms or aircraft and their disposal in the marine environment. Such wastes may be 'dumped' in bulk, in containers, or incinerated..."⁵⁹ The kinds of wastes dumped are extremely varied, covering the range of man's activities. Until recently, dumping has been unregulated by international agreement and insufficiently overseen by national regulation. Consequently, the quantity and kind of wastes that have been dumped are largely unknown and thus their potential for harm is undetermined.⁶⁰ Data has only recently been assembled and it indicates the sea has been and continues to be used as the receptacle for an extraordinary amount of man's refuse.

By volume, dredged materials are the main class of wastes dumped.⁶¹ "The weight in dry matter of dredging muds dumped in the North

Sea in 1979 is estimated at 20,000,000 tons."⁶² Dredged spoils can be dangerous; those from highly urbanized areas often contain cadmium, mercury, and heavy metals.⁶³ As populations tend to live near coasts, the ocean is often used to dispose of municipal sewage sludge. In 1983 7.3 million tons of this waste were dumped by the United States⁶⁴ and these also often contain harmful substances.⁶⁵ In 1979 the EEC countries put 9,347,832 tons of industrial waste into the sea.⁶⁶ Such wastes hold "traces" of cyanide, arsenic, cadmium, and mercury compounds.⁶⁷ That same year the United States dumped 2,577,000 tons of industrial waste.⁶⁸ Floating on or just below the ocean surface is a surprisingly large amount of debris such as plastic and polystyrene items, wood, fishing gear, and glass and metal containers.⁶⁹ The amount of solid wastes entering the marine environment "can be in the million of tons."⁷⁰

The remaining class of substances dumped is radioactive wastes. Although quantitatively little is dumped into the oceans, it is qualitatively the most dangerous. Not only must the soundness of containers be assured for hundreds of thousands of years but placement must be secure so that there is not a recurrence of incidents wherein fishermen have found in their nets barrels of radioactive wastes.⁷¹ The United States stopped dumping radioactive wastes in 1970,⁷² but between 1947 and 1969 allowed 86,000 containers of the waste to be dumped.⁷³ The condition of the containers, their exact location, as well as the amount disposed have been questioned.⁷⁴ In Europe ocean disposal of low level radioactive wastes goes on. Between 1967 and 1979 65,085 tons of the waste were dumped by several nations under OECD supervision.⁷⁵ During 1982 Britain disposed of 2697 tons of packaged solid and liquified nuclear wastes⁷⁶ and it has recently discussed plans to dump high level plutonium.⁷⁷ In 1983 Japan decided to continue its disposal programme with an initial drop into international waters of 5,000 to 10,000 drums of low level waste.⁷⁸

An activity that does not neatly fit into the categorization made here of wastes dumped involves military wastes. "These...have consisted of organic materials, biological and chemical warfare agents, heavy metals, petrochemicals, outdated explosives, defoliating agents, pesticides, solid objects, dredging spoils, and other inorganic materials peculiar to military establishments."⁷⁹ Because of the classified nature of military operations it is troubling that details about dumping locations and the exact chemical and toxicological nature of the

wastes is frequently unknown.⁸⁰

It needs to be noted that not all wastes dumped harm the marine environment. In fact, such activity can be beneficial. Dumping certain nontoxic wastes in poor sea areas may enhance the development of the living resources there.⁸¹ Sewage sludge may benefit the marine environment if its main toxic substances are removed prior to disposal.⁸² Automobiles and automobile tires may be useful in creating artificial reefs.⁸³

3. Land-Based

Although ocean dumping puts vast amounts of different wastes into the seas, it is land-based pollution that is by far the greatest source of marine pollution. "By most scientific accounts 75% - 85% of the detectable pollutants in the ocean are traceable to land-based sources."⁸⁴ Other estimates put the range at 80 to 90%.⁸⁵ Wastes from land enter maritime waters by two routes, point source, such as a factory drainpipe, and nonpoint, such as natural runoff.

Land-based wastes come from an extraordinary diversity of human activities and the amounts from this source are enormous. A survey of the Baltic Sea, even though unable to obtain full information, concluded the Baltic has put into it yearly 1.3 million tons of organic matter, 308,890 tons of nitrogen, and 25,825 tons of phosphorus.⁸⁶ Fifty percent of these wastes came to the Baltic via rivers,⁸⁷ illustrating that rivers are the primary avenue by which land-based pollutants reach the oceans.⁸⁸

Untreated sewage, released directly from land, is one of the foremost problems in less developed areas such as the Caribbean⁸⁹ and of serious concern in the Mediterranean Sea that has pumped into it the municipal sewage of 120 coastal cities,⁹⁰ over 90% of which is discharged in its raw state.⁹¹ To this waste is added discharges the Mediterranean receives from 140,000 coastal factories.⁹²

Modern agricultural practices contribute to oceanic pollution. The use of fertilizers has burgeoned from two million metric tons per year at the start of the century to 100 million metric tons.⁹³ Because plants rarely use more than 60% of the nitrogen from fertilizers, much of it will pollute ground and surface water and some will reach the seas.⁹⁴ A similar problem exists with herbicides and pesticides, the use of which has also increased dramatically.⁹⁵

Although it is estimated that eleven million cubic meters of urban waste are released into the North Sea each day⁹⁶ and that

60,000 tons of "toxic metal wastes" enter it annually,⁹⁷ it is British nuclear waste discharges that receive considerable publicity. The British nuclear operation at Sellafield regularly releases radioactive substances into the Irish Sea; currents carry the pollutants around the coast of Scotland to the North Sea.⁹⁸

4. Atmospheric

Pollution reaching the sea through the atmosphere can be considered a land-based source because the two sources have a common place of origination, land. Although this is generally true, some atmospheric pollutants do not originate on land. The marine environment may be harmed by air pollution caused by ships that burn fuel oil and by incineration of wastes at sea. Thus, a separation of atmospheric and land-based pollution can be made by recognizing their place of origination is not always the same and their pathways diverge; one reaches the marine environment through the air and the other via rivers or directly from runoff and outfalls. Furthermore, it is helpful to distinguish the two where, as here, a general explanation of the sources of marine pollution is undertaken.

Atmospheric transport of pollutants is not "an insignificant part"⁹⁹ of the movement of contaminants from land to sea. "Crude" estimates of the pollutant transfer from air to sea reveal the global transfer of "DDT, PCB, carbon tetrachloride, Freon II...and sulphur dioxide [amounts] to 200; 2000; 14,000; 5,400; and 10,000,000 tonnes per year."¹⁰⁰ Other atmospheric pollutants include such substances as phosphate,¹⁰¹ pesticides,¹⁰² radioactivity,¹⁰³ and lead.¹⁰⁴ As for incineration at sea, a practice that began in 1969,¹⁰⁵ 99.9% of the wastes are destroyed during the burning and less than .1% of residue is ash.¹⁰⁶ This ash, however, is toxic¹⁰⁷ and some it will reach and harm the marine environment.¹⁰⁸

5. Offshore Exploration and Exploitation

While the mining of sand, gravel, diamonds, tin, and heavy metals from the ocean proceeds,¹⁰⁹ it is the search for and extraction of oil and gas that are the primary goals of offshore mining. The production of oil and gas account for approximately 90% of the value of mineral resources recovered from seabed operations and, by 1977, for about 20% of the world petroleum and gas extraction.¹¹⁰

The causes of pollution from offshore gas and oil operations can be divided into operational and accidental. Operational discharges include oil and gas as well as mud mixtures that contain sodium hydroxide

ide, iron, chromium, and sulphur.¹¹¹ Though offshore petroleum production accounts for only about 1.3% of all oceanic oil pollution,¹¹² a blowout can cause severe, short term environmental damage in localized areas. Despite this industry's fairly good record, there have been serious blowouts, such as at Santa Barbara, California, where the environmental damage has been estimated at between ten to forty million dollars.¹¹³ Iranian wells were recently spewing about 5,000 barrels of oil a day into the Persian Gulf.¹¹⁴ The causes were two; one well was struck by a ship and two others were set on fire by Iraqi warplanes.¹¹⁵ Although it is not certain how much oil entered the Gulf or what damage was done, significant losses of marine life have been attributed to the oil.¹¹⁶

6. Deepsea Exploration and Exploitation

A United States agency anticipates that exploratory mining of the deep ocean for phosphorite and manganese nodules that lie on or just below the ocean floor will have little or no significant adverse environmental effect.¹¹⁷ Since commercial exploitation has not begun, the extent and type of harm that will be caused are prospective, nonetheless, preliminary assessments have been made. Removal will be accomplished by sucking or scraping the nodules from the seabed. Either method will have adverse environmental effects for the ocean surface, water column, and ocean bottom.

Collecting the nodules will probably destroy benthic flora and fauna.¹¹⁸ The mining will lift sediment that will be released throughout the water column, from the place of removal to the ocean surface.¹¹⁹ The resettling sediment could limit light penetration thereby reducing phytoplankton and impair photosynthesis and the early stages of the food chain.¹²⁰ This plume may also smother benthic life and thus dilute the food supply of bottom feeders.¹²¹ A second plume will be created by discharges from ships of seafloor sediment and water.¹²² This may significantly harm the larvae of those fish, such as tuna, that spawn in the open ocean.¹²³

Deepsea nodules contain as many as twenty minerals but only the more valuable minerals will be extracted. The extraction process will produce a great deal of waste that will require disposal. If processing is done at sea the pollutive chemicals used will likely be dumped at the mining site, and if done on land wastes may still end up in the oceans because it is likely processing plants will be operated in

D. An Overview of Marine Pollution

Having noted the multitude of marine pollutants, some significant polluting incidents, and the various sources of marine pollution, it is appropriate to make a general assessment of their effect.

1. The Marine Pollution Problem

a. Coastal versus Open Ocean Areas. In studying the well-being of the marine environment, it is necessary to distinguish the coastal from the open ocean areas, for they differ dramatically in several respects. The marine resources man values are gathered almost solely in the coastal zone, the amenities provided by the seas are concentrated near shore, and man's polluting activities occur mostly in coastal waters.¹²⁶

Marine life is not uniformly distributed. Vital life producing and supporting systems for marine life are near coasts and it is here the vast majority of ocean flora and fauna originate and live.¹²⁷ Though coastal zones comprise a relatively small part of the ocean area, it is here man takes more than 90% of his seafood.¹²⁸ Thus, in terms of protecting the marine environment, it is obvious one must give primary attention to the coastal region. But the open ocean cannot be ignored. Despite the fact that it has been referred to as essentially a biological desert, recent discoveries suggest that the number of species living on the deep ocean floor may be far greater than had been thought.¹²⁹

Recreation is a major use of the marine environment and it is concentrated near shore. Pleasure boats can be hindered by ocean litter. The enjoyment of swimming is interfered with by debris and even more so by microbial pollution from sewage. The negative effects of unsightly wastes upon the aesthetic pleasures of a shoreline and rolling sea are obvious.

It is in coastal zones where man does most of his polluting and where the damage is more apparent and pronounced. It has been mentioned that most marine pollution is land-based; all of it passes through and 90% ends up in coastal waters.¹³⁰ Ninety percent of shipping is near shore.¹³¹ Hence, this area receives a good deal of the pollution generated by ships. Dumping takes place near coasts, it being uneconomical to situate dump sites far from land. Lastly, offshore exploration and exploitation is primarily undertaken in shallow, coastal waters.

b. The Health of the Oceans. Clearly then, conclusions about

oceanic health ought to address coastal and open areas separately. GESAMP adopted this approach and concluded in its study of the marine environment: "In the open sea we have not detected significant effects on the ecosystem. Trends have indeed been observed of the concentration of several contaminants, some up, some down, but these are not reflected in environmental deterioration."¹³² "On the other hand," GESAMP goes on to say, "effects can be seen in semi-enclosed seas, shelf areas and coastal zones."¹³³ A review of the literature on the effects of marine pollution proves the correctness of GESAMP's opinion¹³⁴ as well as this conclusion:

[A]lthough effects of pollution have not so far been detected on a global scale, general trends of increasing contamination can be recognized in some areas, and these trends are warning signals. The signals are noticeable mainly in the marine areas most intensively used by man, viz. coastal waters. The oceans are capable of absorbing limited and controlled quantities of wastes and, as such, represent an important resource. But careful control of waste disposal is necessary.¹³⁵

Thus, the oceans are not faring badly. The great part of them, the open ocean, is healthy. Semi-enclosed seas are in varying degrees of difficulty. Coastal areas, other than those in semi-enclosed seas, are generally healthy although there are localized areas of pollution and occasional incidents of severe damage.¹³⁶ Yet, statements that "life in the oceans has hardly been touched by pollution"¹³⁷ are unduly optimistic and perhaps even dangerous as they tend to create a false belief that "all's well." Furthermore, any conclusion that marine pollution and the damage it causes is mild can only be accepted with caution, for two reasons that will now be discussed.

2. Considerations in Assessing Ocean Health

a. The Future

Any study of marine pollution that limits itself to present conditions is shortsighted. Consideration of what stresses are likely to be placed on this important resource in the future are necessary. And the future of the oceans is not bright; the marine environment will come under ever-increasing strain from all sources of pollution.¹³⁸

World energy demand is to increase by 58% by 1990.¹³⁹ Some of this demand will be satisfied with coal produced energy. One opinion is that coal use will rise by 13% by 1990.¹⁴⁰ The consequence is greater sulphur dioxide emissions, the prime element of acid rain. Nuclear sources of energy are likely to increase as will the problem of what to do with the waste¹⁴¹ and a number of countries are pushing ahead with

their civil nuclear programmes or developing nuclear capability.¹⁴²

By the end of the century offshore oil, which now accounts for 30% of world production, will likely exceed the 50% mark.¹⁴³

The world's population will grow by more than 50% by the year 2000¹⁴⁴ and population problems are "fundamental and critical to international environmental policy-making."¹⁴⁵ Urbanization will soar and more and more sewage and other wastes will enter the sea untreated, particularly as the population increase will occur in countries least able to provide sanitation systems. To feed the world's populace, use of fertilizers, herbicides, and pesticides will grow.¹⁴⁶ Pesticide use in LDCs is expected to at least quadruple from 1975 to 2000.¹⁴⁷

New uses will be found for the sea. Building nuclear facilities on platforms in coastal waters is being discussed.¹⁴⁸ It is also proposed that liquified natural gas terminals and methanol plants be located on the sea.¹⁴⁹ Storing high level radioactive wastes in the marine environment is deemed feasible and is being considered by Britain,¹⁵⁰ the United States,¹⁵¹ and the OECD Nuclear Energy Agency.¹⁵² The United States is studying the feasibility of scuttling approximately 100 decommissioned nuclear submarines over the next three decades.¹⁵³ Some toxic wastes can be destroyed by combustion and the sea is being looked to as the locale where this incineration might take place. Mariculture is expanding and its wastes could threaten the environment of coastal zones.¹⁵⁴ Heightened industrialization boosts the kinds and amounts of wastes that will enter the sea. There is a serious problem of what to do with toxic wastes, a conundrum that will grow. In a year, EEC states produce twenty to thirty million tons of toxic wastes and the United States about sixty million tons.¹⁵⁵ Disposal on land is dangerous since sites can leach and contaminate ground water, and in the United States the Environmental Protection Agency estimates that up to 75% of all active and inactive disposal sites do leak.¹⁵⁶ The Agency also concludes that "land disposal needs to be drastically reduced."¹⁵⁷ A Congressional Research Service Brief entitled "Ocean Dumping: A Time to Reappraise?" discusses the possible change in United States policy to allow more hazardous substances to be disposed of in the ocean.¹⁵⁸

Thus, no comfort or sense of relief should be felt by conclusions that the open seas are unaffected by wastes; nor should satisfaction be derived from the fact that coastal areas, considered globally, are in reasonably good health. To say "that research has shown the ocean to be a much more resilient system than was at first thought"¹⁵⁹ fails to

recognize that "the resiliency of the oceanic system is not will understood"¹⁶⁰ and fails to account for the prospects of a gloomy future.

b. The Problems of Marine Science. Conclusions about the health of the marine environment must be tempered with recognition of problems confronting marine science. Of needed environmental data as a whole, UNEP says there exists "startling gaps."¹⁶¹ With specific regard to the oceans, GESAMP states: "The existing data base for an assessment of global marine pollution is extremely limited."¹⁶² Little is known about the behavior of oil in cold water and under ice and of arctic marine ecosystems.¹⁶³ Congress is reevaluating United States dumping policy but the data gap in knowledge about the effects of dumping leaves Congress "without clearly interpretable data upon which to direct or assess current ocean dumping policy."¹⁶⁴ In an IOC sponsored study of oceanic health, the author, speaking about assessing the danger to marine resources from chemicals and energy, said "there are obstacles to such undertakings, for the production, use and disposal data are often maintained as privileged information by manufacturers or by sovereign nations."¹⁶⁵ Not only may industry be faulted, for sometimes governments hinder acquisition of knowledge. In his study of the Mediterranean Action Plan, Boxer writes: "It is questionable whether most Mediterranean coastal states really want to know the state of pollution in their coastal waters. Scientists ...are interested, but governments are cautious in encouraging investigations that may be too revealing."¹⁶⁶

Many articles about marine pollution contain comments bemoaning the paucity of information, factual and scientific. Of the Caribbean, for example, it is said:

There is a lack of data on the major sources of marine pollution...on the amounts of pollution entering the marine environment, on the present levels of pollutants in the various components of this environment and on the effects of pollutants and coastal development activities on marine ecosystems, human health and coastal amenities.¹⁶⁷

In his study of marine pollution, Dr. Waldichuk states: "If one examines closely the state of environmental knowledge concerning the world oceans, one can soon identify many gaps."¹⁶⁸ He then names nineteen areas in marine pollution research where basic knowledge is lacking.¹⁶⁹

A problem of marine scientists is the basic one of determining cause and effect. Oceanic waste input is heterogeneous, making it difficult to discover which substance actually causes a specific harm. There is the additional predicament of differentiating between anthropogenic and natural inputs of the same substance. When, for example,

a fish species population declines, it is a complex task, perhaps beyond attainment, discerning whether the decrease is due to natural changes in ocean ecology or to pollution, and if caused by pollution, which pollutant is the culprit.¹⁷⁰ In addition, there is the burden of not knowing what happens to pollutants when they interact with physical and chemical properties of the sea as well as with other contaminants. Whether a particular waste becomes more or less dangerous upon such interactions is generally unknown.¹⁷¹ Yet, according to Waldichuk, the scientific community is losing interest in environmental research even though "we are not much further ahead today in understanding many of the problems of marine pollution than we were in 1970."¹⁷²

Beyond the doubt this state of marine science must cause about conclusions of marine health, there is the danger of chronic low level pollution and the long term effects which are as yet unpredictable for nearly all contaminants. The Global 2000 Report says the main threat to the oceans will not come from spectacular incidents but slowly from chronic low level pollution. "The point is made that 'demonstrable effects to marine resources are seldom available within time spans that could effectively stop the pollution prior to adverse contamination.'"¹⁷³

Amidst such scientific uncertainty the dilemma is deciding how to act. Concerned persons who contend, "[i]f governments wait for scientific near-certainty it will often be too late for them to act at all,"¹⁷⁴ may be wise, not environmental extremists. Action seems required as little comfort can be had from the conclusion that the oceans are in reasonably good health. "[W]e can say that the oceans as a whole are healthy, so far. But the sickness we see in the estuaries and coastal zones is circulating and spreading throughout the whole system, and could eventually threaten all its parts."¹⁷⁵ Nor must sight be lost of the fundamental role the seas play in maintaining conditions for life on earth.¹⁷⁶

There are those who argue that harm to the marine environment will come gradually and that once damage is clearly discernible remedial action can be taken. Yet, "[i]t should not be assumed...that environmental death is necessarily a gradual process...The sudden collapse of some environmental systems, such as Lake Erie in North America, should be sufficient warning of the dangers of the 'gradualist fallacy.'"¹⁷⁷

CHAPTER TWO

AN OVERVIEW OF THE COORDINATION PROBLEM

A. Introduction

This chapter provides an overview of the coordination problem that is said to exist within the network of international organisations dealing with marine pollution. Prior to reviewing this opinion, "coordination" is defined. This exercise will pinpoint the type of coordination that is of concern in the thesis and thus define the thesis' scope. Also defined is "international organisation." These bodies can be either governmental or non-governmental and may also be distinguished as global or regional. Since the regional organisations have significantly contributed to the environmental law of the sea, an examination of the term "region" is in order, particularly because this study divides the international community's response to marine pollution into global and regional.

B. Defining "Coordination," "International Organisation," and "Region"

1. Defining "Coordination"

The meaning of "coordination" involves the ideas of negative and positive cooperation. Negative cooperation seeks to avoid duplication of activities and its purpose is to limit the work of one or more organisations.¹⁷⁸ If duplication is understood as two organisations engaged in the same kind of projects with identical objectives then there is little, if any, duplication of marine pollution activities and of programmes in other areas as well.¹⁷⁹ What does occur, however, is overlap, that is, two organisations carrying out somewhat similar projects that cover some or much of the same ground.¹⁸⁰ Positive coordination, the second strand of "coordination," involves joint planning and action. Joint planning seeks to identify gaps, harmonize policies, establish priorities, divide work, and determine the most efficacious way to perform activities, all in an effort to achieve maximum results.¹⁸¹ Joint action is the united execution of a programme by two or more organisations.

Obtaining the ends of negative coordination is easier to accomplish than positive coordination since it is easier to locate overlapping activities than it is to harmonize policies, set priorities,

and divide work. It is also politically difficult for organisations to argue that duplicative or overlapping projects are needed. In addition, the limited resources given organisations makes it more likely there are gaps in organisational activities than overlap.¹⁸²

Another approach to defining "coordination" proceeds by dividing it into three categories: rationalization, standardization, and prioritization.¹⁸³ Rationalization is the process whereby duplication is removed. Standardization refers to coordinating such administrative matters as personnel conditions and financial practices. Priorization has as its primary objective the same goals as positive coordination, though duplication and overlap may be removed during this process.

"Coordination" in this study is understood to include rationalization and prioritization, that is, positive and negative coordination. Not of concern are the numerous financial, administrative, and budgetary matters of coordination. The focus is on coordinating the substantive marine pollution control programmes.

2. Defining "International Organisation"

Dr. Archer has reviewed the many definitions given "international organisation" and from these finds three outstanding features of the term: membership, aim, and structure.¹⁸⁴ An international organisation should draw its membership from at least two or more states, although membership is not restricted to states.¹⁸⁵ An international organisation should have as its aim the pursuance of common interests of its members. An international organisation should have a permanent, formal structure established by a formal instrument and not under the continual control of one member.

Based on these elements Archer defines "international organisation" as "a formal, continuous structure established by agreement between members (governmental and/or non-governmental) from two or more sovereign states with the aim of pursuing the common interest of the membership."¹⁸⁶

International organisations may be distinguished as those that are intergovernmental (IGOs) and those that membership is nongovernmental (NGOs). IGOs are based on a formal instrument of agreement between states,¹⁸⁷ while any international organisation not so established is an NGO.¹⁸⁸

IGOs need to be furthered categorized because the thesis examines the legal and organisational response to marine pollution on two levels, the global and regional, and on each level IGOs are active.

A global IGO is, in principle, open to all states and operates worldwide.¹⁸⁹ Examples include IMO and WHO. An organisation "with a limited number of members most of which are seen to be geographically proximate and/or culturally, economically and politically similar has traditionally attracted the [label] 'regional,'" ¹⁹⁰ such as NATO and the ECE. There is a unique kind of regional IGO that has appeared in the last decade. During this period a number of regional marine pollution control conventions have come into force that establish an implementing and administering body. These are typically known as commissions and though they are not as elaborate as regional IGOs that readily come to mind, such as the EEC, they are nonetheless IGOs. The conventions establish permanent secretariats to serve the commission. Although the secretariats are small this does not deprive the commissions of IGO status, for the IGO "framework may be very simple and consist of nothing more than a lightly staffed secretariat..."¹⁹¹ Along with the secretariat there is the commission proper, composed of the member states, meeting annually, and directing the implementation and development of the convention. Although looking unlike the more well-known regional IGOs, "[o]ne may recognize sophisticated institutional arrangements in regional conventions for marine pollution control."¹⁹²

3. Defining "Region"

Defining "region" raises "major problems"¹⁹³ and before discussing the definition it will be helpful to begin by identifying the main types of marine regions: physical, management, and operational.¹⁹⁴ Physical regions, delimited by geographic features, are finite in number and include ocean basins and semi-enclosed seas.¹⁹⁵ Nine ocean basins have been identified.¹⁹⁶ Considered sufficiently extensive and distinguishable from ocean areas are semi-enclosed seas, a long list that includes the North, Mediterranean, and Baltic Seas.¹⁹⁷ Within the semi-enclosed seas are innumerable subregions,¹⁹⁸ such as the Gulfs of Bothnia and Finland, the Oresund, and the Aegean and Adriatic Seas. It does not follow from the existence of physical regions that joint management activities by littoral states occur, even if the area suffers from a defined problem, such as pollution. But when problems justifying treatment as a separate marine region emerge, a management region exists,¹⁹⁹ even though it is not necessary a management region conform to physical regions or subregions.²⁰⁰ If the states of a management region jointly address the problem by formal arrangements then the third type of marine region, the operational region, is realized.²⁰¹ The arrangements can vary widely from cooperative monitoring activities to supranational

institutions with legislative powers.

While physical regions have always existed and while many management regions were identified two decades ago, operational regions have arisen only within the last decade or so. This is known as the phenomenon of regionalization, "the trend toward a more or less localized pattern of cooperative action within the international political system, explainable in terms of an apparent perception by two or more states of links resulting from geographical proximity."²⁰² Operational regions sometimes arise because of cultural affinity among the area states, as is the case with the area covered by the Nordic Convention for the Protection of the Environment. Sometimes operational regions find their identification in terms of natural features, such as the Cartagena Convention for the Protection of the Caribbean. Other operational regions are defined by a particular threat, such as a significant risk of tanker collisions in narrow channels.²⁰³ In other instances, politics characterizes a region, as is the case with the Convention for the Protection of the West and Central African Region that does not include South Africa and Morocco. On the other hand, some operational regions include states of antagonistic political and economic systems, as represented by the Helsinki Convention which includes Western and Eastern Bloc powers. Cultural, political, and economic homogeneity is thus not always a requisite for an operational region.

Such disparate characteristics of areas where formal arrangements exist to protect the seas proves the complexity of defining what "region" means. Perhaps the term is best understood as an idea, an organising technique for the efficacious resolution of, or at least a structured and formal response to, a marine pollution problem. It is better understood this way than by attempting to list criteria that define "region,"²⁰⁴ for the meaning depends on the interest involved²⁰⁵ and if no common interest exists in an area it may be said that there is no "region." The only two broad factors useable in defining an operational region are the geographic proximity of the states involved and the recognition by those states of a mutual interest in protecting the marine environment and their belief that this interest is furthered by joint action.

C. The Asserted Failure of Intergovernmental Organisations to Cooperate

There is widespread concern about insufficient coordination

among IGOs. This collaboration has been disparaged by individuals who have headed organisations,²⁰⁶ by those who have conducted studies on behalf of the network,²⁰⁷ and by observers.²⁰⁸ Of course there is a contrary opinion,²⁰⁹ but the number of critics and their adamant tone cannot be ignored. Such criticism is often specifically directed at IGOs dealing with marine pollution. The General Assembly expressed such concern in a 1969 resolution.²¹⁰ Since then there has been "a noticeable trend" toward increased cooperation among global, regional, and functional bodies.²¹¹ The author of this statement, however, doubts that the progress has been sufficient.²¹² More than a few commentators agree. For example, de Klemm states:

Present institutional arrangements relating to the study, exploitation and preservation of the marine environment ...are clearly unsatisfactory.

[W]ithin the United Nations system, marine matters, often closely related to each other, are dealt with by several different agencies. There is little coordination and no real possibility of identifying gaps in subjects covered or assigning new tasks to a particular organisation.²¹³

UNEP's Governing Council recently adopted a resolution calling for the "need for closer coordination" in solving problems of marine pollution²¹⁴ and the United Nations Administrative Committee on Coordination has stated "there is scope for improvement" in this field.²¹⁵ Miles says that in the area of preservation of the marine environment "[t]here seems to be substantial overlapping of functions with some duplication of effort and a high degree of interorganisational competition and conflict over programs and resources."²¹⁶

Broader studies of IGOs and ocean uses have drawn conclusions such as the "overall lack of coordination,"²¹⁷ and the "ever-present rivalry and clash of interests among members of the U.N. family of organisations."²¹⁸ These comments refer to the United Nations and specialized agencies and not necessarily to regional IGOs concerned with marine affairs, but critics of coordination at this level also exist.²¹⁹

Complaints are also prevalent that the overall environmental work of the United Nations network, and not just that concerned with marine pollution, is incoherent. "[F]or the sake of efficiency a better coordination of the activities of various international organisations concerned with the protection of the environment seems necessary."²²⁰ Such arguments persist despite the existence of UNEP. One writer comments upon "UNEP's inability to assert much influence over the policies and programmes of the large and well-entrenched specialized agencies...This

fact...has produced a great deal of criticism about the effectiveness of UNEP."²²¹ A review of the minutes of UNEP's Governing Council reveals a steady stream of complaints about insufficient cooperation.²²² UNEP's present Executive Director has recognized that UNEP has not succeeded in coordinating environmental programmes,²²³ as has UNEP's Governing Council,²²⁴ the Administrative Coordinating Committee,²²⁵ and the General Assembly has implicitly done so.²²⁶

Thus, there are numerous complaints about coordination of ocean and environmental activities in general and marine pollution activities in particular. It is appropriate to point out that this thesis has reservations about the validity of these charges, at least those directed at marine pollution projects. But the belief is widespread and apparently firmly held that there is a serious problem that inhibits the efficacy of IGOs to develop international law protective of the marine environment. The subject, therefore, merits consideration, particularly since IGOs play a prominent role in the international community's response to the environmental threats confronting the oceans.

PART II: ASSESSING THE EFFECTIVENESS OF THE LEGAL RESPONSE TO
MARINE POLLUTION

CHAPTER THREE

LIMITATIONS OF NONCONVENTION-BASED RULES OF THE INTERNATIONAL
ENVIRONMENTAL LAW OF THE SEA

A. Introduction

This chapter assesses the significance of some nonconventional international rules for the environmental law of the sea. The norms examined are often put forward by publicists as evidence of law regulating the use of the oceans as a waste disposal resource. It is the thesis of the chapter that the rules are of little usefulness for protecting the marine environment. As the nonconventional rules addressed are derived from custom, judicial decisions, and general principles, a basic understanding of these three concepts as sources of international law is offered.

B. The Sources of International Law

Ascertaining international law is frequently difficult. Aid in doing so is often sought from Article 38(1) of the Statute of the ICJ which sets forth the sources of international law; these being conventions, custom, general principles of law, judicial decisions, and teachings of publicists.²²⁷

To better understand the function of these sources, it is beneficial to distinguish them as either law-creating or law-determining.²²⁸ Conventions, custom, and principles are law-creating sources for they are processes by which international law is made. Law-determining agencies include judicial decisions and publicists. While incapable of creating international law, these assist in determining what norms have come into existence and their content.

1. International Custom

Traditionally, international law of the sea has evolved outside of treaties, its rules having been more often derived from international custom. International custom is "evidence of a general

practice accepted as law."²²⁹ Two requirements are generally posited for a finding that governmental actions represent international custom or lead to its creation: a sufficiently uniform state practice and an intellectual conviction by the acting state that its action is required by international law.²³⁰ State practice is the overt element of custom and requires a quantitative analysis involving four, not entirely distinct, parts: a general, though not universal practice; some degree of repetition; consistency; and duration.²³¹ Custom's second element is known as opinio juris and requires a qualitative, or subjective, analysis of a state's reasons for acting as it did. Although it has been contended that opinio juris may not be a requirement,²³² this is probably not true for opinio juris is necessary to distinguish legal custom from state practices founded upon habit, courtesy, and morality.²³³

2. Judicial Decisions

Judicial decisions include the work of the Permanent Court of International Justice (PCIJ) and the ICJ, as well as decisions by arbitration tribunals and national courts. The usefulness of each is limited in the search for an obligation to control marine pollution.

a. International Judicial Decisions

Two reasons exist for the limited value of international judicial decisions. First, there has been no case concerning environmental damage to the oceans other than the aborted Nuclear Tests Cases.²³⁴ Consequently, cases to be examined propound precepts applicable to marine pollution only by analogy and sometimes that analogy becomes stretched to and beyond the breaking point. Second, international law does not recognize stare decisis. Article 59 of the ICJ Statute precludes the Court's decisions in contentious cases from having binding authority.²³⁵ The Statute of the PCIJ contained a similar limitation.²³⁶ The ICJ may give advisory opinions to certain IGOs,²³⁷ (as could the PCIJ) but these also lack binding force, even for the organisations requesting them.

Yet, it is true that states respect judicial decisions, particularly those of the ICJ. The pleadings of the Court's litigants are replete with reference to PCIJ and ICJ decisions that are cited as authoritative.²³⁸ The ICJ itself cites its past opinions and those of the PCIJ. Without ever stating it is bound by stare decisis, the Court habitually seeks guidance from its jurisprudence and individual judges have come close to proclaiming the binding force of precedent.²³⁹ Lauterpacht has said that the decisions of the two World Courts are "as a matter both of legal principle and of actual experience, one of the

enduring factors which influence its future decisions."²⁴⁰ Furthermore, judicial decisions as a law-determining process are evidence of international law. This factor, coupled with the respect states give Court opinions, opens somewhat the precedential door closed by Article 59.

b. International Arbitration Awards

The authoritativeness of arbitral awards is weaker than World Court decisions. This is illustrated by the failure of the ICJ to refer to arbitration decisions except in rare instances.²⁴¹ When it does so it is typically in sweeping generalities.²⁴² The value of arbitral awards can also be weakened by the varying competence of the arbitrators as well as their reasoning.²⁴³ Three further factors contribute to the lesser significance of arbitral awards. First, an arbitration panel is often of regional composition, lacking the ICJ's universality.²⁴⁴ This can lead to the tribunal applying law it erroneously believes is accepted by the international community. Second, some publicists refuse to acknowledge the contribution of arbitration tribunals because of an alleged fundamental distinction between arbitral and judicial decisions.²⁴⁵ "According to these writers, arbitrators have...[generally] tended to act as negotiators or diplomatic agents rather than as trained judges... They insist that arbitrators have been influenced to an unreasonable extent by the necessity of reaching a compromise."²⁴⁶ Third, as states establishing an arbitration panel are free to name its members, there is no requirement the tribunal be composed of individuals learned in international law. For instance, in the Argentine-Chile Frontier Case, while the President of the Court of Arbitration was a lawyer, the other two members were geographers.²⁴⁷

c. National Decisions

Nearly all of the national decisions presented below address river disputes and none marine pollution, so any relevance they have to marine pollution is by analogy. Analogies between these two problems do exist. Each concerns a natural resource and one that moves, mixes, and carries contaminants. The policies and factual problems of the two are similar. If it is accepted that rivers flowing through several federated states are akin to the flowing commons of the oceans, is it still valid to apply municipal decisions regarding rivers to marine pollution?

Because national courts are state organs their rulings, when endowed with sufficient uniformity and authority, can evidence state practice. As such, they are international custom. Although the propo-

sition municipal decisions can represent state practice has been questioned,²⁴⁸ the weight of authority supports it.²⁴⁹ A consistent, widespread national court practice might also provide evidence of a general principle of law under Article 38(1)(c) of the ICJ Statute.²⁵⁰

Apart from these considerations, it is clear national decisions fall within Article 38(1)(d). This provision allows recourse to judicial decisions to determine international law and municipal courts are able to provide evidence of this law. National courts have referred to international law to solve their interstate disputes and, thus, their opinions aid in determining and elucidating this law.²⁵¹ The United States Supreme Court, for example, "leans heavily on international law sources for its materials of decision."²⁵² This court has itself stated: "Sitting, as it were, as an international, as well as domestic tribunal, we apply Federal law, state law, and international law, as the exigencies of the...case may demand."²⁵³ Two recent English decisions exemplify the usefulness of municipal decisions in understanding international law.²⁵⁴

It ought, however, to be kept in mind that municipal decisions have only a quasi-international quality and must be used cautiously. Professors Schwarzenberger and Brown point out a number of factors that handicap national courts as compared with international tribunals.²⁵⁵ Among these are the act of state doctrine that restricts judicial freedom; the rule that international law may not be applied if it contravenes statutory or constitutional law; and the tendency, or duty, of municipal courts to accept the word of the executive as conclusive on matters of policy.

3. General Principles of Law

There is disagreement about the meaning and function of Article 38(1)(c)'s reference to "general principles of law recognized by civilized nations" as a source of international law.²⁵⁶ Regarding the function of general principles, there are those who argue general principles serves no purpose, that they are "superfluous"²⁵⁷ because any international dispute can be settled by either conventional or customary law. Most Soviet writers do not believe general principles provide an independent source of international law.²⁵⁸ Such opinions are misguided for they conflict with Article 38 which does not indicate a subsidiary, let alone superfluous role for general principles.²⁵⁹

The controversy over the meaning of general principles is less easily settled. The concept has been interpreted as general principles of justice, natural law, analogies derived from private law,

general principles of comparative law, general principles of international law, general theories of law, and general legal concepts.²⁶⁰ The debate, however, seems concentrated on understanding the phrase to mean general principles of international law or general principles of municipal law.²⁶¹

Most Soviet writers believe Article 38(1)(c) refers to general principles of international law, which are principles derived from treaties and custom. They deny general principles of municipal law can become a part of international law except to the extent they have been adopted in custom or treaties.²⁶² This position is weak. Article 38 lists three kinds of sources the ICJ is to give primary consideration: conventions, custom, and general principles of law. Since treaty and custom are mentioned separately the presumption arises that the special reference to "general principles of law" does not encompass those principles already incorporated in conventional or customary law.²⁶³ Instead, the only question should be determining what principles are recognised by civilized nations.²⁶⁴ The majority of publicists accept this position,²⁶⁵ a view recently affirmed by the Supreme Court of Canada²⁶⁶ and substantiated by studies of the travaux preparatoires of the corresponding provision in the Statute of the PCIJ.²⁶⁷

Although it is acceptable to use the term general principles of international law, it is necessary to keep a clear distinction between it and general principles of law recognized by civilized nations. The former refers to well-settled and fundamental rules with their source in customary or treaty law. On the other hand, the legal basis of a general principles of law recognized by civilized nations is not founded upon custom or treaty but upon its recognition in the law of a representative number of nations.

C. Nonconvention-Based Rules for the International Environmental Law of the Sea

1. Customary International Law

As mentioned, a state practice must be widespread, though not universal, and of some duration before it can ripen into customary law. As man's environmental conscience has only recently awakened, satisfying these two elements to find customary rules to deal with international environmental issues will be difficult.

Granted, there may be a customary rule that a state may not conduct an activity regardless of transnational consequences,²⁶⁸ but this

rule is shackled because the prolonged state practice of using the sea for waste disposal is a customary right and some amount of transfrontier pollution is acceptable under international law.²⁶⁹ Stated otherwise, only serious transnational pollution is prohibited.²⁷⁰ Furthermore, the broad principle forbidding transboundary effects does not protect the high seas where no state has sovereignty and thus cannot have its sovereignty infringed by a polluting activity occurring or having its effect there. In addition, the general rule is not working. If it were, the diplomats of UNCLOS III would not have been as concerned as they were to protect the marine environment.

That there has been little time for customary environmental rules to develop is recognised by Professors Brownlie and Teclaff. Writing in the early 1970s, each viewed customary law with little, if any, relevance.²⁷¹ Schneider, writing in 1979, reaffirmed this opinion.²⁷² Brownlie, however, saw that this situation might change²⁷³ and, as states continue their marine environmental protection work, customary rules may indeed develop. Presently, however, there is little customary law. Even with radioactive waste, a substance of concern to the international community for several decades, "little or no customary international law has crystallized..."²⁷⁴

As a number of states have adopted comprehensive marine pollution control laws, one might hope to find customary rules generated from such legislation. But national law has "hardly sufficient uniformity to effectively contribute to the process of international custom creation."²⁷⁵ Nor have ad hoc state practices brought to fruition customary norms.

Yet, there is a burgeoning body of treaty law on marine pollution and from this a scholar has located two areas where customary international law rules may exist. Dr. Hakapaa, while believing "past experience does not give much proof of the emergence of customary rules,"²⁷⁶ nonetheless says oil pollution conventions stretching back to 1954 have produced "a fairly strict customary regime"²⁷⁷ regarding oil discharges from ships. The convention rules prohibiting oil discharges for nearly all tankers within 50 miles of land "could be considered to have acquired the status of customary law."²⁷⁸ Hakapaa adds that the load-on-top method of limiting oil releases "may represent a minimum requirement of pollution protection stating a rule of customary law."²⁷⁹

Dumping is the second area where Hakapaa finds customary norms.²⁸⁰ He bases this position on the number of dumping conventions

that came into force in the 1970s, including the LDC, ODC, Helsinki Convention, and the Dumping Protocol to the Barcelona Convention. The terms of each agreement are similar and from this Hakapaa concludes that "where dumping of a particular substance is prohibited by all the agreements...the prohibition appears to be so widely accepted that its application as a norm of customary law is justified."²⁸¹ As for other substances, the treaty network may allow the conclusion that these may only be dumped with national or international approval.

Hakapaa's methodology has merit, for conventions may generate customary rules.²⁸³ His conclusion, however, may be unwarranted. As the regional dumping conventions only apply to waters surrounding Europe and since the global dumping treaty, the LDC, has not been widely ratified and as its active members are largely European states, any customary international law on dumping may be of a regional nature for Europe rather than a global customary rule.²⁸⁴

Another scholar has sought to find a customary rule regulating land-based pollution. The result was the discovery that marine pollution control agreements have merely reaffirmed the broad principle that one state may not seriously harm the territory of another and that this principle only applies to new, not existing, forms of land-based pollution.²⁸⁵

This summary of custom indicates that this kind of law does little to ensure clean seas. Only the barest of rules have been found. Nor is it likely much customary law will ever develop. The diverging interests of a ballooning number of states, most of which, if not all, want to play a role in shaping international law, make it improbable that consistent state practice in environmental matters will occur.²⁸⁶ Furthermore, it has been suggested that custom should not be relied upon to address marine pollution since custom usually evolves slowly and is unable to keep abreast of technology.²⁸⁷

2. Judicial Decisions and General Principles

The judicial decisions discussed below have received considerable comment in legal literature and in a published study by this writer.²⁸⁸ Consequently, only a sketch of the factual background and a summary evaluation of the usefulness of each case for controlling marine pollution is presented.

a. Corfu Channel Case

In the Corfu Channel Case²⁸⁹ Britain asserted Albania was liable for failing to warn British ships of mines in the straits of Corfu, international straits within the territorial waters of Albania.

Royal Navy ships struck the mines and were damaged and British lives were lost. The ICJ found Albania responsible, stating every state has an "obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States."²⁹⁰ The case is often given a prominent place in international environmental law.²⁹¹ This place is undeserved.

The foremost problem with the Corfu Channel rule for environmental cases, and marine pollution in particular, is its requirement of "knowingly." The great difficulties confronting marine science were described in Chapter One. Only in unusual instances will a state know its pollution of the oceans will be "contrary to the rights of other states." Damage to the marine environment is rarely caused by a sole polluting source or one pollutant or by a single state. Furthermore, what degree of pollution is contrary to interests of other states? And what is to be made of the Corfu Channel rule when considered alongside the firmly entrenched customary norms that states have the right to use the oceans as a waste disposal resource and every state must accept some harm from its neighbours?²⁹² The ostensible conflict of the rules can be clarified by emphasizing Corfu Channel is not an environmental case and its rule cannot easily be lifted from the case's extraordinary facts -- involving armed conflict and military operations -- and applied to environmental problems.

b. Nuclear Tests Case

In the Nuclear Tests Case Australia contended, inter alia, that French nuclear weapon tests over the South Pacific harmed the marine environment, thus violating international law.²⁹³ During oral submissions Australia elaborated on its belief that it "is the duty of States not to subject the natural resources of the high seas to any unwarranted environmental hazard."²⁹⁴ Australia referred to a General Assembly resolution, Article 25 of the Geneva High Seas convention, the 1972 Declaration of Santiago, marine pollution conventions, and pronouncements of the Stockholm Conference on the Human Environment. Unfortunately, the Court did not reach the merits. Rather, it addressed a preliminary issue: whether the case still had a purpose since France publicly stated it no longer intended to conduct atmospheric nuclear tests. The ICJ concluded: "the dispute having disappeared, the claim advanced by Australia no longer has any object."²⁹⁵ The Court repeatedly said it offered no opinion on the merits of Australia's contentions.²⁹⁶ As Australia only objected to "unwarranted" environmental harm, even if

the ICJ had reached the merits and agreed with Australia this would not take international law far in protecting the oceans. This hypothetical decision could only be applied to highly unusual polluting activities, which are not the primary threat to the seas.

Of Australia's legal contentions the joint dissent of Justices Onyeama, Dillard, Jimenez, de Arechaga, and Waldock said "we are not to be taken to express any view as to whether any of them are well or ill founded."²⁹⁷ One publicist has stated that the joint dissent agreed with Australia's claim that France was legally bound to refrain from polluting the high seas by radioactive fallout.²⁹⁸ The writer erred, however, in attributing to the dissenters an argument by Australia. The Justices were only willing to say that Australia's claims were not "frivolous... and appear to...be based on rational and reasonably arguable grounds."²⁹⁹ The search for an obligation not to pollute the oceans is not advanced by the Nuclear Tests Case.

c. Trail Smelter Case and General Principles

The most famous environmental arbitration is the Trail Smelter Case.³⁰⁰ This decision is avidly grasped by many writers as proof international law forbids transboundary environmental harm.³⁰¹

The dispute, between the United States and Canada, arose out of the operation of a smelting plant located in Canada. Fumes from the plant drifted across the border and damaged natural resources. In its decision the arbitration panel stated:

The Tribunal...finds that...under the principles of international law, as well as the law of the United States, no State has the right to use or permit the use of its territory...to cause injury by fumes in or to the territory of another...when the case is of serious consequence and the injury is established by clear and convincing evidence.

...

Considering the circumstances of the case the Tribunal holds that...Canada is responsible in international law for the conduct of the Trail Smelter. Apart from the undertaking in the 1935 Convention...it is, therefore, the duty of the...Dominion of Canada to see to it that this conduct should be in conformity with the obligation of the Dominion under international law as herein determined.³⁰²

As a result, the smelter was required to refrain from causing further damage and to pay for past damage.³⁰³

The most common objection to the claim this case is "a weighty precedent"³⁰⁴ establishing "once and for all the principle of international liability for damages caused to the environment of another State"³⁰⁵ is that 1935 agreement submitting the matter to

arbitration required the tribunal to apply both United States and international law. This, the argument continues, makes it "difficult to establish exactly the legal basis on which the tribunal decided the case."³⁰⁶ This is unsound criticism. The arbitrators said in three places in the above extract that Canada's duty was founded on international law, not just United States law. Furthermore, before making the above statement the panel said it first had to decide upon what basis to answer the issues, on United States or international law. It concluded this was immaterial because United States law on the subject "is in conformity with the general rules of international law."³⁰⁷ Despite this defense of the Trail Smelter Case, it is nonetheless doubtful that it is in fact a "weighty precedent," but for other reasons.

The tribunal's reasoning for its conclusion on international legal duties was based on a discussion of several United States Supreme Court decisions. The panel then sought to prove these cases were representative of international law in four ways:³⁰⁸ by offering a quote from Professor Eagleton, by saying other publicists had made statements like Eagleton's, by "studying" international law (though failing to note what sources it analyzed) and finding this law and United States law similar, and by citing an intercantal case from Switzerland. This is meagre authority for the grand proposition that "under the principles of international law... no State has the right to use...its territory in such a manner as to cause injury...in or to the territory of another..."

The tribunal imposed responsibility only where the consequences are "serious" and proven by "clear and convincing evidence." These requirements dilute, if not emasculate, the case's value for the problem of marine pollution. "It goes without saying that the flexibility of any standard of 'seriousness' of damage makes any application thereof questionable. Furthermore...it is much easier to assess the 'serious magnitude' of pollution on...land than on the sea."³⁰⁹ And Brownlie states that water pollution is gradual and that it involves "problems of identifying tortfeasors, of establishing...causation, and of remoteness of damage."³¹⁰ Of a medium similar to the oceans, the Great Lakes of North America, the Canadian-American International Joint Commission has said: "It is difficult to establish positively that the concentration of a particular pollutant on one side of the boundary in the lakes is due to a specific source on the other side."³¹¹ Thus, Trail Smelter's requirement of material harm and strict proof impose high hurdles.

There are also geographic limits to the Trail Smelter rule.

The award emphasizes territory when it says no state is entitled "to use or permit the use of its territory in such a manner as to cause injury... in or to the territory of another..." This concentration on territory robs the case of much of its value for the environmental law of the sea. Ocean dumping, for example, "typically occurs close to the coast...of the dumping state, and its effects on...areas beyond...national jurisdiction are largely speculative."³¹² Particularly harmful wastes are often put into the high seas, not infringing on any state's territory. This will also be the case with pollution from deepsea mining and incineration at sea. All land-based pollution flows to the coastal waters of the state producing it. Much of land-based waste stays and does its damage in this zone. Likewise with offshore mining. Consequently, the tribunal's call for respect of territorial sovereignty does not touch most acts and effects of marine pollution.

Though Trail Smelter concerned a land activity damaging land interests, it is proper to apply it by analogy to harmful activities in and damage to territorial waters,³¹³ because, as Article 1 and the 1958 High Seas Convention and Article 2 of the LOSC say, a coastal state's sovereignty extends to the territorial sea. In this zone the coastal state has nearly all the attributes of sovereignty it has with its land territory. It is, however, likely stretching the decision too far by applying it to the high seas, an area where no state has territorial or sovereign rights.³¹⁴ The place of pollution in Trail Smelter was the sovereign territory of a state and this decisive factor would seem a necessary element to any situation the case is sought to be applied by analogy. Granted, the recent expansion of territorial zones from typically three to twelve miles will allow a broader geographic scope for the award, but its requirements of serious injury and severe standard of proof will give it a role in only dramatic marine pollution incidents, which rarely happen.

The Trail Smelter Case is commonly said to apply the abuse of rights principle and the maxim that one must use his own so as not to injure others.³¹⁵ This latter notion is often referred to as sic utere tuo alienum non laedas. Another theory, good neighborliness,³¹⁶ also appears in many discussions of abuse of rights and sic utere tuo. The three principles are not distinct and their interrelationship is recognised by many scholars.³¹⁷ This discussion will focus on the abuse of rights doctrine because it is the theory most often referred to as creating or evidencing a duty not to pollute and the significant overlap of all

three principles makes an examination of each unnecessary.

Underlying the abuse of rights concept is the idea that the law should restrict a right that, when exercised, unduly interferes with other states. Like Trail Smelter, however, the principle offers little guidance in determining environmental responsibilities. It is nebulous, without criteria to guide its application. Understanding the difficulty in determining what is abusive is advanced by considering these words:

In the fields of quasi-judicial, administrative, or political decisions, the arbitrary exercise of discretion becomes increasingly unverifiable, and the wider the discretion, the easier it is to find the most plausible arguments to hide such reasons. If discretion is exercised within so wide a framework as territorial jurisdiction, only the most patent abuses of sovereignty could possibly be caught by any prohibition of the arbitrary use of sovereign rights.³¹⁸

In the hurly-burly of world affairs, "views on what is reasonable are frequently based on assumptions which, not entirely unreasonably, are not shared by everybody."³¹⁹ Environmental rules, policies, and even environmental awareness vary widely among states. United States nuclear weapon testing in the Pacific was strongly defended by McDougal and Schlei.³²⁰ "If such a 'use' of the environment can be considered 'reasonable,' at least by two respected publicists, what cannot?"³²¹ Of sic utere tuo it has been said that it "is a very broad principle which reaches nearly platitudinous levels of abstraction,"³²² that it is "mere verbiage" and "utterly useless as a legal maxim."³²³

Given the wide entitlements of state sovereignty, the immaturity of marine science, and that "good faith is to be presumed, whilst an abuse of rights is not,"³²⁴ proving an act of marine pollution to be abusive would be unenviable. The premise of abuse of rights is that the activity complained of is *prima facie* lawful.³²⁵ A significant burden of proof must thus be carried for a successful action to be founded upon the doctrine.

Abuse of rights has been defined as the prohibition of a right exercised solely to cause mischief or injury to another state.³²⁶ This formulation considerably limits the utility of the doctrine for it is doubtful any marine polluting activity is carried out to harm another state. An abuse of rights also has been said to "occur when a state exercises its right in such a way as to inflict on another state an injury which cannot be justified by a legitimate consideration of its own advantage."³²⁷ Formulated thus, the doctrine leaves the oceans commons unprotected, for, rather than emphasize the polluting activity

and its harmful effects to the marine environment, it focuses solely on injuries caused another state.

This brings up a point that needs to be noted, that is, who is entitled to invoke state responsibility for damage to the marine environment? The status of actio popularis, the concept granting a state standing to take legal action on behalf of the international community to protect a common interest, is subject to debate.

In the South West Africa Case, the ICJ stated actio popularis "is not known to international law as it stands at present."³²⁸ Yet, the Barcelona Traction case³²⁹ has been said to accept the doctrine.³³⁰ But the remarks of the case that are relied on are dicta and the Court's examples of its statement are derived from principles of basic human rights and acts of aggression and genocide. Although this list was not exhaustive, marine pollution hardly fits the genre. In the Nuclear Tests Case the Court did not reach the issue of the claimant's legal interest and all the joint dissent said was that the existence of actio popularis was capable of rational argument.³³¹

More recently, Justice Schwebel in his dissent from part of the Interim Order in Nicaragua v. United States accepted actio popularis.³³² His discussion of it, however, is paltry, referring merely to Barcelona Traction and an International Law Commission (ILC) report.³³³ He only discussed its applicability to "the observance of the principles of collective security..."³³⁴ This is in accordance with the limited categories offered by the Barcelona Traction dicta and perhaps Justice Schwebel would take the doctrine no further than these unique categories.

The situations in which Barcelona Traction and Justice Schwebel allow actio popularis seem to be fundamental rules of international law. These rules are referred to by Article 53 of the Vienna Convention on the Law of Treaties as "preemptory norms of general international law,"³³⁵ known as jus cogens. These rules are recognised by the international community and no derogation is permitted from them. If the norms of jus cogens can be determined, perhaps it will become clearer to what situations actio popularis might apply. But identifying the norms of jus cogens is difficult, as the ILC admitted in its Comment to Article 53 of the Vienna Convention.³³⁶ The Commission declined to offer examples of jus cogens. Nevertheless, examples suggested by Commission members include unlawful use of force contrary to the United Nations Charter; performance of an act criminal under international law; and such acts as trade in slaves, piracy, and genocide.³³⁷ Marine pollution is dis-

tinctly outside the purview of these classes as well as the Barcelona Traction dicta and Justice Schwebel's acceptance of *actio popularis*.³³⁸

It can, therefore, be said with some confidence that no state has standing to take, on behalf of the world community, legal action to protect the marine environment in any zone outside its jurisdiction.³³⁹

Another problem is attribution. General international law fails to view individuals or private entities as its subjects. States are the foremost subjects and a state is not typically "under a duty to control the activities of private individuals (being its nationals) beyond the bounds of state territory. Thus a state is not responsible for the delinquencies of vessels flying its flag or otherwise controlled by its nationals..."³⁴⁰ An ILC draft article on state responsibility says: "The conduct of a person or group of persons not acting on behalf of the State shall not be considered as an act of the State under international law."³⁴¹ Some link must be found between the conduct complained of and the state.

The problems of standing and attribution cast doubt upon any widespread, ready applicability of abuse of rights, and other international legal norms, to oceanic pollution. But there is a more fundamental problem for the abuse of rights doctrine. Does it actually exist in international law as many writers assert?³⁴²

Two PCIJ decisions are often cited as evidence that abuse of rights exists.³⁴³ But there is little in the cases to support this conclusion and the part of the opinions relied on are obiter dicta. Opinions of the ICJ contain oblique comments that could intimate recognition of abuse of rights,³⁴⁴ but the Court has never confirmed its existence, let alone set forth a reasoned formulation of it. Nor has the Court ever discussed any authority upon which one might conclude the doctrine is part of international law. A number of separate and dissenting opinions have, however, referred to the maxim,³⁴⁵ but one of these admitted abuse of rights has not yet entered the jurisprudence of the Court.³⁴⁶ This statement was made over thirty years ago and the Court has yet to accept the principle. As for arbitration awards, one can be cited as having recognised abuse of rights,³⁴⁷ but another implicitly denied it.³⁴⁸

As abuse of rights is not confirmed by international judicial decisions, one might look to municipal legal systems. If it is part of a number of systems and if each understands it similarly, perhaps abuse of rights is a "general principle of law recognized by civilized nations" within Article 38(1)(c) of the ICJ Statute.

After studying many legal systems, two comparative law scholars unequivocally conclude abuse of rights is not a general principle recognised by most nations,³⁴⁹ an opinion shared by respected publicists.³⁵⁰ There is a contrary opinion,³⁵¹ but even if the concept is found in most legal systems, this is half the battle, for any general principle, once found, "must be applied with caution, for what may be thought to be a general principle found equally in civil and common law [let alone other systems]...may well be subject to different interpretation in those systems."³⁵² Indeed, where abuse of rights has been found it is often understood differently,³⁵³ depriving it of the status as a general principle. The search for abuse of rights in custom also has produced equivocal results.³⁵⁴

There is another angle from which to view the question of the existence of abuse of rights. Schwarzenberger maintains that the theory is redundant. He reaches this idea by analyzing situations typically said to support recognition of abuse of rights and finds there are rules available to solve the problem presented. Thus, there has not been an abuse of rights but a violation of a prohibitory rule.³⁵⁵

To conclude, though abuse of rights is often used uncritically in the context of environmental issues,³⁵⁶ it has not been accepted by international judicial decisions and there is serious doubt it is a general principle of recognised by civilized nations. There is also doubt whether custom has given rise to the maxim. If abuse of rights is a part of international law, its vague formulation makes its application to the unique problem of marine pollution problematic, it being more a policy slogan than a legal rule.

d. Gut Dam

The Gut Dam Case had its origin in 1902 when Canada constructed Gut Dam across the boundary between a Canadian and American island.³⁵⁷ Before the United States allowed construction Canada promised to compensate any American citizen who suffered damage due to the dam. In 1952 American property owners suffered flooding and erosion damage they claimed was due to Gut Dam. In 1966 an arbitration panel was formed³⁵⁸ to answer three questions: which American claimants were entitled to compensation under the 1902 indemnification agreement, whether Canada's obligation under that agreement had lapsed, and the amount of damage and its cause. After the first two issues were answered in favor of the United States an accord was reached whereby Canada paid \$350,000

in full settlement.³⁵⁹

A number of scholars argue that the Gut Dam case is important for international environmental law.³⁶⁰ Schneider asserts the tribunal clearly accepted a rule of strict liability for transboundary environmental injury.³⁶¹ This is not so. Nor did the tribunal even make a ruling or offer a comment on state responsibility under international law for causing extraterritorial harm. Its role was limited to answering the three questions, a restriction it respected. Though Gut Dam did cause environmental damage and Canada did pay for much of the loss, it did so because of its treaty obligation. Canada did not assume liability nor did the tribunal impose it under a general rule of international law. The award thus has been legitimately bypassed by most publicists.

e. Lake Lanoux

Another arbitration award used too extensively is the Lake Lanoux Case.³⁶² Some writers give the impression the case concerns transboundary water pollution. It does not. The case arose out of France's intention to divert water from Lake Lanoux for a hydroelectric project. Although the lake is in France, its waters flow to the Carol River that crosses into Spain. The French diversion would not, however, deprive the Carol of its water for France devised a scheme whereby water from Lake Lanoux would travel through a French-built tunnel to the Carol watercourse, leaving the river with just as much water as it had always had.

The relevant contention of Sapin was that the project would modify the physical features of the basin; that is, that Carol waters would be removed from their natural course.³⁶³ French guarantees that the water volume would be maintained did not satisfy the Spanish, who argued the project would give France "physical superiority."³⁶⁴ It is clear from Spain's submissions that it feared France, in a time of international tension, would close the spout and not allow water from Lake Lanoux to reach the Carol. To prevent this possibility Spain sought to stop the project. Transfrontier pollution was never a part of Spain's position. About pollution, even the tribunal stated: "Neither in the dossier nor in the pleadings...is there any trace of such an allegation."³⁶⁵ It is also crucial to note that all Spain's arguments were based on the disputant's 1866 Treaty of Bayonne. The question posed to the tribunal was whether France's proposals constitute an infringement of the treaty.³⁶⁶

Recognising that pollution was irrelevant and that general international law was not addressed, where lies the significance of Lake Lanoux for international environmental law? Its relevance is sought in that part of the award where the tribunal, after concluding no Spanish interests would be harmed because the water volume would not change, added:

One might have attacked this conclusion in several different ways.

It could have been argued that the works would bring about a definitive pollution of the Carol or that the returned waters would have a chemical composition or a temperature or some other characteristic which could injure Spanish interests.³⁶⁷

It is this language that scholars have focused on to support arguments for not only the existence of international duty to avoid transboundary water pollution,³⁶⁸ but more broadly yet, that international law imposes strict liability for extraterritorial harm.³⁶⁹ What these writers ignore is the sentence following the quote above which makes it clear the tribunal was not relying on precepts of general international law, but on the 1866 convention. That sentence is: "Spain could then have claimed that her rights had been impaired in violation of the [treaty]."³⁷⁰ Furthermore, Spain's contentions were based entirely on the treaty and the tribunal itself declared that "the question presented by the Compromis relates solely to the treaty..."³⁷¹

As the case concerned water volume and not pollution, and as it interpreted and applied a bilateral treaty and not general international law, the tribunal's oft-quoted statement is obiter dictum. Furthermore, having stepped beyond the agreement that established it, an agreement that limited its jurisdiction to applying the 1866 convention, the tribunal's comments about pollution are null and void.³⁷²

f. National Judicial Decisions

National courts have been involved in environmental disputes between the component units of federated states. These decisions support the rule that a federated state does not have the unfettered right to do as it pleases on its territory, but must consider the effects its actions will have on its fellow states and, if such acts are seriously harmful, municipal courts have often ordered either cessation of the activity or remedial measures to limit the damage. Such has been the jurisprudence of Italian,³⁷³ Swiss,³⁷⁴ and German³⁷⁵ courts. A broad study of municipal judicial decisions concluded that "in almost every system of municipal water law will be found the principle that one State using water must take into consideration the use of water by other States."³⁷⁶

The United States Supreme Court has dealt with many inter-state river disputes. In treating the state litigants largely as sovereign states, the court has resorted to equitable balancing tests to decide the disagreements.³⁷⁷ "[I]n all decisions...concerning pollution of Inter-State rivers...the Court acted on the presumption that a riparian State of the federation which shares a watercourse should not pollute its waters so as to cause serious damage to the interests of other riparians."³⁷⁸

The Supreme Court has thus allowed some transboundary harm to occur but not if it is "unreasonable." What is unreasonable depends on a myriad of factors unique to each case, and this robs United States decisions of their usefulness for international law. Furthermore, it is difficult to obtain from a study of national decisions the criteria necessary to establish "the existence of a general principle of law and hence a principle of international law regarding pollution of waters."³⁷⁹ The United States Supreme Court has said "controversies between states over the waters of inter-state streams involve...complicated and delicate questions..."³⁸⁰ Perhaps the resolution of these disputes is too dependent on their individual facts to allow for the development of general principles recognised by civilized nations.

D. Conclusions

The customary law, judicial decisions, and general principles surveyed in this chapter are those often invoked as evidence of a state obligation to protect the seas. What has, however, been portrayed is the weakness and relative uselessness of these sources in addressing the perplexing problem of marine pollution.

Relevant and workable customary law is nearly nonexistent in this field. The Nuclear Tests Case and Gut Dam have no role to play. Lake Lanoux, considering as it did a bilateral treaty and a non-environmental matter, is not helpful. As for Corfu Channel and Trail Smelter, they are accurate in stating a country may not act as it pleases and harm another state. This broad proscription is well recognised. Municipal cases support it, but the usefulness of such decisions, for anything more than evidence of this general rule, is doubtful. And the rule of Corfu Channel and Trail Smelter can take international law only a small step toward developing a legal regime protecting the marine environment from slow, steady deterioration. Territorial interests are their focal point and thus the open oceans fall outside their ambit.

Non-acceptance of actio popularis leaves this zone open to abuse. In addition, under Corfu Channel and Trail Smelter, international responsibility arises only if the harm is serious and caused knowingly; moreover, the violation must be proved by clear and convincing evidence. These requirements mean that nearly all marine pollution activity escapes their reach. Furthermore, application of the rule that one state may not harm another collides with the rule that states may pollute. Marine pollution being what it is, reconciling these two rights on the grounds of reasonableness would be difficult. As such, the international legal structure of marine pollution control is not advanced by judicial decisions. Nor is one encouraged by a study of general principles. They may not be recognised by international law and vagueness plagues them all. General principles do little to clarify a state's responsibility and each lacks elucidating criteria upon which a precise solution to a marine pollution problem could be based. It is this difficulty Justice Read probably had in mind when he wrote: "Practically speaking, it is, I think, impossible for an international tribunal to examine a dispute between two sovereign States on the basis of either good faith or bad faith or of abuse of law."³⁸²

States have recognised these problems with traditional international law and that the institutions established to administer the law are too immature to meet environmental problems. Consequently, states have sought to adjust their sovereign and often antagonistic rights by treaty. Marine pollution control conventions are a recent phenomenon and an evaluation is required of their role in the legal structure of marine pollution control.

CHAPTER FOUR

GLOBAL ENVIRONMENTAL LAW OF THE SEA OF A GENERAL CHARACTER: LAYING THE FOUNDATION FOR THE PROTECTION OF THE MARINE ENVIRONMENT

A. Introduction

The United Nations has sponsored several conferences that have negotiated the general law of the sea. The 1958 Geneva Conference adopted four conventions and all are in force.³⁸³ The second conference was held in 1960 to resolve issues the 1958 conference was unable to, the primary problem being the width of the territorial sea,³⁸⁴ but this conference was unsuccessful. The third United Nations conference, UNCLOS III, convened in 1973 and completed its work in 1982 with adoption of the LOSC. As the LOSC is not yet in force, the 1958 conventions remain the most important representation of accepted law of the sea, although once the LOSC is in force, it "shall prevail, as between States Parties, over the Geneva Conventions" (Art. 311(1)). For states not LOSC parties, the Geneva Convention will remain applicable.

There are only a few environmental provisions in the Geneva Conventions and the more important will be examined to assess their usefulness. The LOSC contains many environmental articles, but because these have been described and evaluated in numerous studies,³⁸⁵ only a few comments will be made about the effectiveness of individual articles. Rather, the thesis will concentrate on several interpretative problems with the LOSC's environmental section, problems that must be resolved if the section is to be effective

B. The 1958 Geneva Law of the Sea Conventions

Marine pollution not being a pressing issue in the 1950s, it is not surprising the 1958 conventions have little to say on the subject. Oil production from ships and radioactive waste disposal were, however, within the interest of states at this time and a few references to these problems appear in the treaties.

1. The High Seas Convention

a. High Seas Freedoms

Article 2 of the High Seas Convention (HSC) states that the high seas are free to be used by all nations. Article 87 of the

LOSC is similar and each provision provides examples of what uses constitute high seas freedoms. While the HSC lists the freedoms of navigation, fishing, laying pipelines and cables, and overflight, the LOSC restates these four and adds the freedoms of scientific research and constructing artificial islands. A caveat then follows. The earlier treaty says high seas freedoms shall be exercised with reasonable regards to the interests of other states. The qualification in the LOSC is similar and it might be upon such caveats that environmental duties may exist. On the other hand, can the provisions be interpreted to include a freedom to use the seas for waste disposal?

As the ILC, which did the preparatory work for the Geneva Conventions, stated in its Comment to Article 2 of the HSC, high seas freedoms are not confined to those mentioned.³⁸⁶ Furthermore, in the ILC debates the point was often made that Article 2 freedoms are not exclusive,³⁸⁷ even though commissioners had misgivings that the list would be regarded as exclusive.³⁸⁸ Indeed, one publicist states that "Article Two, it should be emphasized, does not include...the freedom to use the sea as a receptacle for the deposit of harmful wastes..."³⁸⁹ The inference, of course, is that international law may not allow use of the seas for waste disposal, but this is clearly wrong. From time immemorial man has used the oceans to dispose of wastes³⁹⁰ and a range of authority was presented above for the proposition that it is lawful to pollute the seas.³⁹¹ Article 2 of the HSC and Article 87 of the LOSC actually reaffirm the legality of such use. Of course the provisions require reasonableness in exercising high seas freedoms, but the acute problems in relying upon such an imprecise standard were also discussed above.³⁹²

A further problem with Article 2 (and Article 87) is that it has nothing to say about the primary source of oceanic pollution, land-based activities. The provision addresses only high seas freedoms. Agricultural runoff and coastal outfalls are not high seas freedoms, the only freedoms Article 2 restricts with the reasonableness standard. It may be argued that because land-based pollutants can travel via the atmosphere and coastal waters to the high seas, that they constitute use of the high seas and are high seas freedoms. In the HSC, "high seas" is defined as all parts of the sea beyond the territorial sea and internal waters (Art. 1). Until recently, the width of the territorial sea was generally three miles. This relatively narrow breadth allows more land-based pollutants to reach the high seas and, perhaps



fall within Article 2's reasonableness restriction. This situation has largely changed with the widespread practice of extending territorial waters to twelve miles, adoption of the LOSC, and emergence of the EEZ. The LOSC's high seas section applies only to the area beyond the EEZ. As many states have extended their territorial sea to twelve miles and adopted EEZ's, the high seas encompass much less area than it did a decade ago. Thus, under the LOSC it is unlikely any land-based sources will affect the high seas.

b. Article 25

Article 25(1) requires states to prevent pollution from dumping radioactive waste, taking into account standards formulated by IGOs. Article 25(2), however, requires states to take measures to prevent pollution "resulting from any activities with radioactive materials or other harmful agents." The phrase "other harmful agents" "has been seized upon by some publicists as a catchall provision intended to require preventive measures for all types and sources of pollution..."³⁹³ This is an improper construction. "Harmful agents" is an oblique reference to atmospheric hydrogen bomb tests and the damage they might cause. The mid-1950s saw the rise of a worldwide controversy over such tests. The United States carried out its first postwar nuclear weapons test in 1946³⁹⁴ and continued testing without much concern by the international community³⁹⁵ until 1954 when radioactive fallout from an explosion damaged Japanese fishing grounds and contaminated Japanese fishermen, one of whom died.³⁹⁶ This touched off demands that the tests stop, but the United States ignored the calls.³⁹⁷ Britain was also conducting nuclear weapon tests during this period.³⁹⁸

A study of Article 25's history aids in understanding what "harmful agents" means. The 1955 HSC draft articles contained no provision such as Article 25,³⁹⁹ which made its first appearance in the last year of discussion on the convention -- 1956, the time the tests were being internationally questioned. The ILC was no exception. Mr. Pal of India led the demand within this body for provisions ending nuclear tests. His initial thrust was to have them excluded from Article 2's specification of high seas freedoms.⁴⁰⁰ This failed as the general opinion was that the article's requirement of reasonableness sufficiently addressed Pal's concern.⁴⁰¹ Pal then sought to accomplish his purpose during the ILC session that discussed pollution.⁴⁰² This debate centered on the harm ionizing radiation, radioactive waste, and

radioactive fallout could cause. Never did another kind of pollutant, except oil, receive mention. Leading the opposition to Pal were the ILC members from the United States and Britain, the states conducting the tests. Although it is not clear from the ILC Summary Records, the term "harmful agents" seems to have been included in exchange for deletion of the words "ionizing radiation" and "radioactive fallout" and replacing them with "radioactive materials." Presumably, the broader "radioactive materials" was viewed less offensively than the specific "ionizing radiation" and "radioactive fallout."

The ILC's Comment to Article 25 also proves a restricted understanding of "harmful agents" is correct:

Finally, the Commission considered the case of the pollution of the seas or air space above resulting from experiments or activities with radioactive materials or other harmful agents. In this connection, it felt that in view of many-sidedness of the subject and the difficulties besetting any attempt to impose a general prohibition, it should merely provide for an obligation upon States to co-operate in drawing up regulations with a view to obviating the grave dangers involved. In adopting this provision, the Commission in no way intended to prejudice the findings of the Scientific Committee set up [by the] General Assembly...to study the effects of atomic radiation.⁴⁰³

No substance is specified other than radioactive materials. That no examples were given of what substances are included in "harmful agents" is a surprising omission. The term is so all-encompassing one would think the ILC would have offered at least a hint as to what substances, or classes of substances, it had in mind. If all substances are included, why were radioactive wastes (Art. 21(1)), radioactive materials (Art. 25(2)), and oil (Art. 24) given separate treatment? Surely they are harmful substances.

The ILC's reference to "grave dangers" also leads to the conclusion that "harmful agents" is related solely to nuclear testing, for in the 1950s few people recognized any danger from marine pollution, let alone "grave dangers." Similarly, the mention of a "a general prohibition" in the quote above, points to nuclear tests. There certainly was no discussion within the Commission or outside it about generally prohibiting all kinds of marine pollution. In addition, the Comment refers to the intractability of the problem, the problem clearly being nuclear tests. There is also mention of a United Nations committee created to address the problems caused by such testing. For all these reasons, the meaning of "harmful agents" is closely tied with "radioactive materials" and does not extend to other classes of pollutants.

This opinion is supported by the ejusdem generis doctrine, according to which general words that follow special words are to be construed as related to the genus of the special words.⁴⁰⁴ Thus "harmful agents" refers to "radioactive materials." A second interpretative tool is provided by Article 31 of the Vienna Convention on the Law of Treaties: "A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its objective and purpose."⁴⁰⁵ "Harmful agents" has no ordinary meaning. Even so, following Article 31's guide that is is to be construed within the treaty context and purpose, one is led back to the predominant concern with the environmental consequences of atmospheric nuclear tests.

When the Geneva Convention discussed the HSC, it adopted a resolution it thought would promote implementation of Article 25(2).⁴⁰⁶ The resolution refers only to radioactive materials. This point further militates against the position that "harmful agents" is a catchall provision requiring preventive action for all kinds and sources of marine pollution. Besides, substantively the article is not worth much. "[I]t does not prohibit anything; it does not distinguish between high-level and low-level radioactive wastes; and it sets no standards..."⁴⁰⁷ It merely requires consultation.

Article 25 does not accomplish much directly. Yet, it may have provided the initial steppingstone for the several treaties of the 1960s and 1970s concerning radioactive materials. If so, the article made a worthy contribution.

2. The Continental Shelf Convention and the Territorial Seas and Contiguous Zone Convention

Article 5 of the Continental Shelf Convention places a weak obligation upon states engaging in exploration and exploitation of their continental shelf. They must take all appropriate measures to protect living marine resources from harmful agents in zones around their mining installations.

In the zone of the high seas contiguous to the territorial sea, the Territorial Seas and Contiguous Zone Convention (TS & CZ Convention) provides that a coastal state may exercise the control necessary to "[p]revent infringement of its custom, fiscal, immigration or sanitary regulations within its territory or territorial sea..." (Art. 24(1)). "Sanitary regulations" does not, however, have an environmental implication allowing for pollution control measures.⁴⁰⁸

Under the TS and CZ Convention, all states have the right of innocent passage through territorial seas (Art. 14(1)).⁴⁰⁹ Passage is innocent "so long as it is not prejudicial to the peace, good order or security of the coastal State" (Art. 14(4)). The coastal state "may take the necessary steps in its territorial sea to prevent passage which is not innocent" (Art. 16(1)). Ships traversing territorial seas are to comply with the coastal state's laws adopted in conformity with the convention and other international rules (Art. 17).

Although the convention does not set forth what activities the coastal state may direct its laws at, the ILC agreed such states might legislate to protect coastal waters from ship pollution⁴¹⁰ and that foreign vessels must comply with such laws.⁴¹¹ Thus, Article 14's "peace, good order and security" includes environmental considerations. Consequently, a coastal state has jurisdiction to control pollution in its territorial sea; an opinion, be it based on customary law or on the Geneva Conventions, that is shared by publicists.⁴¹² Coastal state regulatory powers are limited only by the obligation not to hamper innocent passage. It is not clear what regulations hamper innocent passage,⁴¹³ or, looked at from another perspective, what acts of a ship are noninnocent. Nonetheless, the provisions on coastal state jurisdiction over the territorial sea and innocent passage are a "constructive ambiguity" creating a "workable balance" between the interests of coastal and maritime states.⁴¹⁴ Many states have adopted laws regulating traffic in the territorial sea, yet the fear of shipping countries of a patchwork quilt of different laws has not occurred and maritime commerce continues.⁴¹⁵

An integral part of an effective regime controlling ship pollution is design, construction, equipment, and manning (DCEM) standards. The cause of numerous tanker accidents resulting in discharges often has been poor ship maintenance⁴¹⁶ and it has been estimated that 75% of such accidents have been due to human error in ship operation.⁴¹⁷ The TS & CZ Convention and customary law allow coastal states to adopt DCEM standards,⁴¹⁸ subject, of course, to the proviso that such laws not hamper innocent passage.

The TS & CZ Convention is progressive with regards to coastal state rights over foreign ships in the territorial sea. Such rights are becoming geographically more extensive with expansion of territorial seas to twelve miles. Yet, the LOSC, as discussed in the next section,

more carefully defines the meaning of innocent passage and in doing so puts restrictions upon the coastal state's ability to protect its marine environment.

3. Conclusion

Other than the grant of competence to the coastal state to regulate ship pollution in the territorial sea, the Geneva Conventions offer little to control marine pollution. This is not surprising. The dangers of such substances as cadmium and organohalogen compounds in the marine environment were unknown in the 1950s. Environmental alarms were not sounded until the 1960s. The situation, however, was completely different then the LOSC was negotiated and, as a result, it contains numerous environmental provisions.

C. The 1982 Law of the Sea Convention⁴¹⁹

1. Introduction

In the late 1960s the law of the sea was perceived by many countries to be unsatisfactory.⁴²⁰ Maritime nations viewed with alarm unilateral extensions of sovereignty of some states over large ocean areas. Some coastal states believed freedom of the seas antiquated, limiting their ability to control coastal natural resources. The aspirations of LDCs for more wealth contributed significantly to the decision to convene UNCLOS III, where such states sought international control of valuable seabed nodules. Environmental law was seen, by some, as unsatisfactory. For these reasons, and others, "the need to elaborate a new and comprehensive regime for the law of the sea was perceived."⁴²¹

After fourteen years of work involving participants from nearly all states, UNCLOS III concluded with the adoption on 30 April 1982 of the LOSC by a vote of 130 in favour, four against, seventeen abstentions.⁴²² The most significant adverse vote was cast by the United States. West Germany and Britain have announced their decision not to sign the treaty.⁴²³ Some of the abstaining nations were the Soviet Union, Belgium, the Netherlands, and Italy. Thus far thirteen states and the United Nations Council for Namibia have ratified the LOSC.⁴²⁴ The treaty will enter into force twelve months after deposit of the sixtieth ratification or accession (Art. 308).

It is appropriate to discuss this treaty that is not yet in force for several reasons. It is, firstly, possible the LOSC will

enter into force, If so, this "constitution of the oceans"⁴²⁵ will be the document in which many maritime duties and rights, including environmental ones, are set forth.⁴²⁶ Second, many scholars and statesmen find the environmental articles an important addition to the law of the sea.⁴²⁷ An assessment of the treaty is needed to test this position. Third, the convention exists, it is a fact. Whether or not it comes into force it will have significant effects.⁴²⁸ "Its very existence modifies political, economic, and legal relationships in countless ways..."⁴²⁹ How a stillborn agreement can affect international law calls for a few remarks on the interplay between treaty and custom.

2. The LOSC and the Treaty/Custom Dichotomy

a. General Remarks

An environmental article of the LOSC may be, or become, a norm of international law even if the treaty never comes into force in three ways. First, the article may codify a rule of international law existing before the convention was concluded. Second, a developing norm expressed in the article may have reached fruition as binding international law during the long negotiating process of UNCLOS III. Third, the article may initiate a state practice subsequent to the convention that eventually leads to an international rule. In each instance, the binding nature of the rule would rest not upon the convention, but upon custom.

An analysis of the articles in Part XII of the LOSC, the environmental section, will not be undertaken to determine which of its rules reflect antecedent international law, the crystallization of international law during the negotiating process, and which have become or are on their way to becoming international law since the convention was concluded. It is sufficient to note that the environmental provisions are theoretically capable of being legal norms without being conventional, some of the problems involved in such a process, and some general comments about the likelihood that this will occur.

The theoretical possibility that the three methods by which a rule expressed in a treaty can bind states on the basis of custom is well grounded. This is exemplified in the North Sea Continental Shelf Cases as well as other ICJ decisions.⁴³⁰ The Court's view of the three mechanisms in this process is accepted by those who have analyzed the North Sea Continental Shelf Cases vis-a-vis the LOSC⁴³¹ and by general works as well.⁴³²

b. Problems for the Emergence of Custom from Part XII

Though some LOSC articles undoubtedly confirm antecedent custom-

any international law, such as the high seas freedoms of navigation and overflight,⁴³³ and though some convention concepts have crystallized into international law, such as the EEZ idea,⁴³⁴ are such processes active regarding the LOSC's environmental provisions?

The first point to make is that "many of the benefits of the environmental provisions...cannot be had under...customary law..."⁴³⁵ For example, Part XII's innovative concept of port state jurisdiction is not recognised in customary law. That Part XII is not generally declaratory of international law has historical roots. Environmental concern is a recent phenomenon. Furthermore, ocean environmental issues in the early years focused on oil pollution from ships and radioactive wastes. States have thus not had time to develop consistent and sufficiently long standing practice in areas such as land-based and atmospheric marine pollution that would enable customary law to emerge.⁴³⁶

Part XII is beset with a further problem. Its most comprehensive provisions address ship pollution and set forth complex jurisdictional duties and rights for flag, coastal, and port states (Arts. 211, 217, 218, 220). This very complexity makes it less likely that such provisions either codify law or crystallize customary law.⁴³⁷ In this respect Dr. Howard points out that if the "convention fails to enter into force, the general nature of provisions...rather than intricate technical features, is likely to characterize any customary law produced..."⁴³⁸

The North Sea Continental Shelf Cases elucidate four criteria that need to be satisfied in the determination of how and when a treaty rule acquires the status of customary international law. These criteria are:

- (1) The presence of a 'fundamentally norm-creating character such as could be regarded as forming the basis of a general rule of law;'
- (2) a 'very widespread and representative participation in the convention,' including 'that of States whose interests were specifically affected;'
- (3) the extensiveness and virtual uniformity of state practice evidencing 'a general recognition that a rule of law or legal obligation is involved;'
- and (4) the passage of some time, short though it may be.⁴³⁹

One must wonder if Part XII satisfies the first criterion since the Part allows exceptional treatment for countries due to their economic circumstances.⁴⁴⁰ Article 192 says "States have the obligation to protect and preserve the marine environment." But this is followed with two qualifications. Article 193 provides that "States have the sove-

reign right to exploit their natural resources pursuant to their environmental policies..."⁴⁴¹ Then Article 194, which requires states to take "all measures...that are necessary" to protect the oceans, adds that states need only take "the best practical means at their disposal" and that they need do no more than what is "in accordance with their capabilities." Such elasticity, which applies to the articles on all sources of pollution, seemingly robs Part XII of, in the words of the ICJ, "a fundamentally norm-creating character having such as could be regarded as forming the basis of a general rule of law."⁴⁴²

Although the second criterion of the ICJ has been fulfilled by the widespread and active participation of countries in UNCLOS III, the third element presents another hurdle. The very complexity of articles on ship pollution will make it difficult to achieve state practice that is "both extensive and virtually uniform."⁴⁴³ It is difficult to imagine nearly all countries applying or respecting Part XII in virtually the same manner. Opinions vary widely over what threat pollution poses to the oceans and what the response ought to be. Besides the likelihood of state practice not being uniform, it may also fail to meet the requisite extensiveness. A less developed state may not be philosophically inclined or financially able to develop and enforce regulations in its EEZ, but Canada, a country regarded as environmentalist, may vigorously do so.

Precatory articles of Part XII are at the opposite extreme and it may be equally difficult to reach "extensive and virtually uniform" state practice with regard to them. Being hortatory, they are valueless until enhanced with specificity. But this necessary development would likely lead to different rules. Justice Oda had something such as this on his mind in discussing the EEZ. After recognising that the EEZ concept had entered international law, he wondered about a problem. "[Q]uite apart from the treaty-making process, the sui generis regime of the [EEZ] is going to require much more careful examination before the rules so far adumbrated may be viewed as susceptible of adoption into existing international law..."⁴⁴⁴ Having a basic concept as a part of law is one thing, he seems to believe, but determining which of the proposed duties and rights that should or must appertain to this regime will require thoughtful reflection. So too with the exhortations of Part XII.

In determining whether a provision of Part XII has developed into customary international law subsequent to the convention, the ICJ

has cautioned in other circumstances that "this result is not lightly to be regarded as having been obtained."⁴⁴⁵

But perhaps one ought not to be overly pessimistic about the chances of Part XII blossoming over the years into customary law if the LOSC never enters into force.⁴⁴⁶ Some authorities believe Part XII's most comprehensive articles, those on coastal and port state jurisdiction, may become part of international law.⁴⁴⁷

Also of some comfort is the fact that environmental provisions were agreed to quickly at UNCLOS III⁴⁴⁸ and that countries remaining outside the convention may not view Part XII negatively. Both the United States⁴⁴⁹ and Britain⁴⁵⁰ have acknowledged their general acceptance of Part XII. Indeed, "[m]ost delegates in Jamaica probably felt that, with respect to Part XII, a proper political balance had been struck among competing interests [and] appropriate institutional mechanisms...found to deal with technical problems..."⁴⁵¹

Such attitudes may indicate that those states outside the LOSC will conduct themselves in conformity with Part XII. If signatories did likewise, the Part may well enter into international law regardless of the ultimate fate of the treaty. There may even be a move to secure separate treaties that include LOSC terms on relatively noncontroversial sections,⁴⁵² such as the environmental articles.⁴⁵³

On the other hand, environmental questions "played a very small and subsidiary role [at UNCLOS III]"⁴⁵⁴ because the participants were relatively unconcerned with the fate of the marine environment.⁴⁵⁵ This is not encouraging for the emergence of Part XII into customary law. Another opinion is equally discouraging. Mr. McManus states: "I do not think that you get an agreement on an international level to protect the marine environment for altruistic reasons."⁴⁵⁶ He believes such agreements are made either when induced by fear, such as occurred after the Torrey Canyon accident, "or else you give them something that they want...badly, such as a clear title to real estate. Here we have a treaty...giving a lot of people title to a lot of real estate they have...wanted clarified for years..."⁴⁵⁷ If they do not in the end get these things because of a failed treaty, one may not be able to expect widespread adherence to the environmentally beneficial parts of the LOSC. A group of respected United States scholars wonder if their country's rejection of the deepsea mining portion of the LOSC may not tempt "other states to think in terms of rejecting or making exceptions to

to other provisions."⁴⁵⁸ Any such unilateral exceptions may include environmental articles.

3. The Relationship between Part XII and "International Rules"

The LOSC is unlike most other marine pollution control treaties. Its provisions seek to protect the marine environment indirectly, by establishing a framework whereby international control of marine pollution can be developed. No specific substantive, standard setting clauses appear. The basic state responsibility is to adopt and enforce national laws to control marine pollution from all six sources. Nothing about the content of such national laws is stated, other than they are to conform to something referred to as "international rules."

This relationship between the national laws and "international rules" is the key controlling Part XII, which establishes nearly all state duties on this unique association. If this connection between "international rules" and national law to be adopted in accordance with such rules is unclear then a flaw appears in the cornerstone of the treaty, making it liable to collapse.

Analysis of this relationship requires close study of treaty terms. Before embarking on such an inspection, it is appropriate to comment upon the general problem of interpreting Part XII.

a. Problems in Interpreting Part XII

Part XII is awash with general and ambiguous terminology. Such cautiousness is probably due to uncertainty about the amount of damage caused by marine pollution,⁴⁵⁹ economic consequences of environmental duties,⁴⁶⁰ and necessary trade-offs with other interests, such as the demand of maritime states that ships not be hampered by environmental laws. Rather than allow a provision to fail, a resort to vague language may have occurred to accommodate all sides.⁴⁶¹ Whatever the causes, the morass of ambiguities will engender acute interpretative puzzles. Numerous difficulties stand in the way of resolving these problems.

The Vienna Convention on the Law of Treaties provides the general rule of treaty interpretation. A treaty is to be interpreted in good faith and in accordance with the ordinary meaning of treaty terms in their context and in light of the treaty purpose (Art.31(1)).⁴⁶² Resort to the ordinary meaning of treaty words is not altogether helpful with Part XII because many phrases in it lack an ordinary meaning,

such as, "competent international organisation," "generally accepted international rules," and "appropriate consultation." Even words with a seemingly ordinary meaning, such as "cooperation" and "international rules," will cause controversy. "The ordinary and natural sense of words may at times be a matter of considerable difficulty to determine... The interpretator not uncommonly has...a personal feeling toward certain words and phrases. What makes sense to one may not make sense to another. Ambiguity may lie hidden in the plainest...of words..."⁴⁶³ And it has been said that applying the "object and purpose" criterion to the LOSC "would be exceedingly difficult if not impossible."⁴⁶⁴

In the event ordinary meaning does not appear, Article 32 of the Vienna Convention allows recourse to supplementary means of interpretation. One such means is the treaty's travaux preparatoires. These records are often helpful in understanding United Nations sponsored treaties. Such agreements are typically prepared by the ILC and developed through a number of defined stages, all of which produce material useful in interpreting the treaty. The LOSC is not in this benign situation⁴⁶⁵ for UNCLOS III was unique in many ways. The ILC had no role and the treaty arose from the consensus process,⁴⁶⁶ during which the origin and development of articles "is exceptionally obscure...especially, as at UNCLOS, when all substantive discussion was off the record."⁴⁶⁷ As one conference participant said after the first two sessions, "the real negotiations took place in informal groups..."⁴⁶⁸ This comment is applicable to the discussions on marine pollution, a "greater part" of which took place in informal meetings.⁴⁶⁹ Because of the informality, all papers and documents used by the delegates are not available. "For non-participants, attempts to interpret the final treaty will be extremely difficult..."⁴⁷⁰

One of the informal groups was the Evenson Group, established between the first and second session and initially composed of a limited number of individuals, most of which were delegation heads.⁴⁷¹ The Group met to work out compromises to present to the conference in the event of deadlocks.⁴⁷² Marine pollution was an issue addressed by the Evenson Group.⁴⁷³ Although solutions found here "inevitably influenced the progress of the Conference,"⁴⁷⁴ "[n]o official records were kept for these...negotiations and the relevant papers were not published or even numbered in any systematic way."⁴⁷⁵ Furthermore, statements made off the record are not evidence of official government

opinions.⁴⁷⁶

This is not to infer there is a dearth of conference records. On the contrary, there is abundant material. But it is "an amorphous mass of material,"⁴⁷⁷ much of which lacks "the objective character of negotiating facts, the essence of traditional travaux."⁴⁷⁸ Some of the material is of a random and disorderly character and much of the rest of a partisan character.⁴⁷⁹ Material produced by states in their self-interest probably cannot be regarded as travaux preparatoires.⁴⁸⁰

Amidst this mass of material, how will one be able to pick out the crucial element in the nine years of conference meetings that is the decisive factor giving proper construction to a phrase? Advice of the ILC is apt: "it is beyond question that the records of treaty negotiations are in many cases incomplete or misleading, so that considerable discretion has to be exercised in determining their value as an element of interpretation."⁴⁸¹

It is axiomatic that, for the effectiveness of a convention, its terms be clear. Otherwise, the privileges it grants and demands it makes will be obscure. An evaluation of the effectiveness of the LOSC requires recognition that its unclarity negates some, perhaps a great deal, of its value.⁴⁸²

b. Part XII and "International Rules"

This study will not attempt to unravel the equivocal language of Part XII. A wide selection of the vague wording is set forth and then phrases expressing the crucial relationship between state obligations and "international rules" is studied to illustrate the interpretative problems the LOSC presents.

Some subjective terms related to marine pollution include:

<u>Article</u>	<u>Term</u>
206	"substantial pollution"
220(5)	"significant pollution"
220(6)	"major damage"
221(1)	"major harmful consequences"
226(1)(c)	"unreasonable threat of damage"
230(2)	"wilful and serious act of pollution"
220(5)	"substantial discharges"

The LOSC's reference to state obligations includes these nebulous terms:

<u>Article</u>	<u>Term</u>
194(1)	"best practicable means"

194(1)	"in accordance with their capabilities"
194(1), 217(3), 211(2)	"harmonize"
197, 200, 201, 235(3)	"co-operate"
204(1), 216, 218(3), 219	"as far as practicable"
many	"endeavour"
many	"competent international organisation"

In provisions 207-212, states must adopt laws to prevent pollution from the various sources. The national laws to be adopted are related to what is termed "international rules." This relation is not the same with each source and understanding the relation is complex. In establishing the relation the following terminology is used:

<u>Article</u>	<u>Term</u>
207(1) on land-based pollution 212(1) on atmospheric pollution	"taking into account internationally agreed rules"
208(3) on offshore activities 209(2) on deepsea activities	"no less effective than international rules"
210(6) on dumping	"no less effective than global rules"
211(2)(5) on ship pollution	"same effect as generally accepted international rules"

The relationship between national laws and "international rules" is thus expressed in basically two ways. With regard to land-based and atmospheric pollution, national laws must "take into account" "international rules." With other sources, an "effectivity" approach is used.

The "taking into account" wording in the land-based and atmospheric pollution articles reflects the wider issue of the tension between the desire for economic development and the need for environmental protection.⁴⁸³ The marine pollution sources most entwined with economic development are land-based and atmospheric. LDCs produce proportionately more of these types of pollution than that from shipping, dumping, offshore, and deepsea activities. Consequently, two standards were set for determining how national laws must reflect "international rules."⁴⁸⁴ With land-based and atmospheric pollution the weaker "taking into account" guideline is used, pleasing the LDCs. The stronger "no less effective" language is used for the other sources as developed countries produce most of these.

The "taking into account" language means that states in adopting national law have "no definite obligation to meet the requirements set out in international arrangements."⁴⁸⁵ Although international

law cannot be ignored, what it comes down to is that states can largely do as they please with their national laws on land-based and atmospheric pollution.

The "effectivity" formulation falls between the mere "taking into account" and adopting in toto the relevant "international rules." "International rules" are not, therefore, strictly binding but their effect is to be achieved by whatever methods the state chooses.⁴⁸⁶ The looming problem is who is to decide if a state's laws are as effective as these rules.⁴⁸⁷

The second part of the four excerpts above also causes interpretative difficulties, and these are more entangled. What do "internationally agreed rules," "international rules," "global rules," and "generally accepted rules" mean? What distinguishes "generally accepted" from "internationally agreed" and "global" from "international?"

In attempting to answer these questions, a first step is to determine when a rule becomes international so as to require the adoption of a national law based on it. First, "international rule" is not to be understood as a rule of international law.⁴⁸⁸ Thus, an "international rule" is something other than a state's obligation under conventional or customary law, which are of course inherently binding.

Dr. Hakapaa says "international rules" should be formulated through diplomatic conferences or IGOs.⁴⁸⁹ Dr. Timagenis, however, believes "international rules" are related only to conventions.⁴⁹⁰ Both agree that the mere adoption of a conventional rule by a diplomatic conference will not create an "international rule."⁴⁹¹ Their opinions then diverge again. Hakapaa argues that a convention signed by a "considerable number of states" but not yet in force may give rise to an "international rule."⁴⁹² Not for all treaty provisions, however, only those "essential for the attainment of the basic objectives of the treaty..."⁴⁹³ But for Timagenis the convention must not only be ratified by the minimum number of states necessary to bring it into force but by an additional number of states.⁴⁹⁴

These men, both scholars of the LOSC and delegates to UNCLOS III, are thus unable to agree upon what constitutes an "international rule," the key aspect of Part XII.

It is submitted that each errs in failing to recognise that state practice can create an "international rule" that states must base national laws upon. To illustrate, Article 207(1) says states shall

adopt laws to control pollution from land-based sources "taking into account internationally agreed rules, standards and recommended practices and procedures." Granted, "standards, recommended practices and procedures" can only arise through the work of a diplomatic conference or, more likely, an IGO. But "internationally agreed rules" can be fairly interpreted as also arising through state practice, through custom. A practice that has not reached the level of customary law may, in the latter stages before reaching that plateau, be considered an "internationally agreed rule." The rule may not have been agreed to in a formal setting but it can be agreed to by one of the numerous mechanisms that manifest state practice, or a combination of them. This construction does not, however, apply to ship pollution for which it is stated that "international rules" are only "established through the competent international organisation or general diplomatic conference" (Art. 211(2)(5)). But Article 208(3) on offshore activities, 210(b) on dumping, and 212(1) on atmospheric pollution are like Article 207 and do not contain a reference to IGOs or international conferences. This partial rejection of the interpretation given "international rules" by Timagenis and Hakapaa, and their own disagreement, illustrates the interpretative problems with the LOSC.

Whatever the proper construction of "international rules," what is curious is that the LOSC has devised a new source of international law. Traditionally, the primary sources of this law are conventions, custom, and general principles. For parties to the LOSC there will be a fourth source when the treaty comes into force. According to Timagenis and Hakapaa's understanding, this new source will be conventions to which a state is not necessarily a party. Assume State A is a party to the LOSC and a new treaty on land-based pollution comes into force. State A, although not a party to this new treaty would nonetheless be obligated, because it is a party to the LOSC, to adopt laws on land-based pollution that take the new treaty into account. So too would it have the same duty if a state practice developed for the control of land-based pollution, a practice that had not yet reached customary law.

Once the problem of interpreting "international rules" has been addressed, one can go on to analyze how these two words are qualified. In the four excerpts on page sixty-four, the rules are referred to as: "internationally agreed rules" (land-based and atmospheric pollution), "international rules" (offshore and deepsea activities), "global

rules" (dumping), and "generally accepted international rules" (ship pollution). The rules are thus "internationally agreed" for two sources, are "global" for dumping, are "generally accepted" for ship pollution, and for the remaining two sources the relevant rules are just "international."

Although there is the view that "generally accepted international rules" are no different than customary rules,⁴⁹⁵ the weight of opinion seems otherwise. A group of Canadian scholars believes this phrase "may be taken to mean rules contained in a convention that has been ratified and accepted by more than the minimum number but has not crystallized into a principle of customary international law."⁴⁹⁶ Timagenis concurs.⁴⁹⁷ Hakapaa's understanding is similar but offers more detail:

Here we are faced with a dilemma familiar in discussions on the formation of customary rules. Obviously it is quite impossible to state any minimum number of states the support of which would precisely make the relevant rules and standards "generally accepted." One might submit, however, that such a limit may be placed somewhere lower than that required of customary norms (otherwise the distinction between customary norms and generally accepted international rules...might simply disappear).⁴⁹⁸

That there is some agreement about the meaning of "generally accepted" does not solve the problem for the interpretation leaves much to be desired. As Hakapaa admits, one is still faced with a dilemma of deciding when a sufficient number of states have ratified a treaty so as to make it generally accepted. Nor may this construction be accurate. At the conference "[s]ome felt that 'generally accepted' required that only a few major states had signed [the relevant treaty] while others felt the convention should be in force and most of the world a party to it."⁴⁹⁹ The French delegation made an internal attempt to define "generalement accepte" but was unable to come to an agreement.⁵⁰⁰ There is also the opinion that "one of the decisive tests for general acceptance is the majority of signatures, not ratifications."⁵⁰¹ To make the matter more confusing, it is probably true that the number of states signing and ratifying, no matter what number is necessary, may not always be sufficient to determine what is a "generally accepted" rule. Will it not be necessary for the states whose interests are specifically effected to be among those accepting the rule before it is generally accepted? Thus, Dr. Schneider argues: "If a convention, such as MARPOL, has been signed by many states...and is being applied by major

maritime states, even before entry into force, can it not be presumed to be 'generally accepted' - and/or 'applicable?'"⁵⁰² Based on all this, it is submitted that states will have "the luxury of determining for themselves when a given international rule is generally accepted."⁵⁰³

One is in an equally uncertain position with the modifying word "global." It is not clear where lies the difference between "global" and "generally accepted" and "international." As for the difference between "global" and "generally accepted," "[n]o direct guidance on the matter...can be derived from [UNCLOS III]."⁵⁰⁴

Even if one could accept the advice that "the difference in language does not necessarily denote difference in substance,"⁵⁰⁵ one would still have to struggle with ascertaining the substance. But this advice cannot be taken. One scholar, after listing a number of seemingly similar phrases in the LOSC, states: "Those who have not taken part in international negotiations tend to underestimate the significance of these boundary concepts within jural relations."⁵⁰⁶ The result is a text that depends on such modifiers to express the substance of legal relationships, and these will have to be contended with when the treaty is applied, an application that may be as varied as the possible interpretations.

4. A Selective Evaluation of Part XII

a. General Principles and Double Standards

The perspective one brings to a study of Part XII defines how one answers the question of its effectiveness, particularly with regard to its general provisions. The principles are precatory and it is easy to be cynical about how states respond to such exhortations. One must respect the argument that the treaty's general duties to protect the environment (Arts. 192-196), cooperate in IGOs for protection of the seas (Arts. 197-201), provide LDCs with technical assistance (Arts. 202-203), monitor the seas (Arts. 204-206), and harmonize national anti-pollution laws (Arts. 207(3), 208(4)),⁵⁰⁷ will not stimulate states to do anything more than they are. Many states might well argue that their present effort constitutes satisfaction of their treaty obligations, and the cynic would not be surprised at such assertions.⁵⁰⁸

A more hopeful perspective is that the general duties will be beneficial; that states will indeed take countenance of them in setting national and international policies. The optimists do not view the LOSC as a utopian document that once in force will secure

healthy seas. Rather, they assess the convention as "a step forward."⁵⁰⁹

Perhaps the best approach to assessing the effect of the general principles in Part XII, and maybe the entire convention, is to adopt an ambivalent position. One must wait and see how states respond to the hortatory language. They may ignore it and confirm the cynics view or they may accept that they must, to some degree, do more about marine pollution. Professor Charney says of Part XII: "At best, these provisions can serve as a source for progressive development of law."⁵¹⁰ Emphasis ought to be placed on the word "can." The worth of the LOSC can be none or it can be significant; it depends upon the response to it.

Fuel for the cynical perspective lies not only in the precatory language of general principles, but also in the LOSC's acceptance of double standards, discussed above.⁵¹¹ These allowances apply to all sources of pollution and are able to emasculate the provisions on each. It may even make legal poor enforcement of ship pollution laws by flag of convenience states; or, at least, encourage listless enforcement.⁵¹²

b. The LOSC and Land-Based, Atmospheric, Offshore, Deepsea, and Dumping Activities

LOSC duties to control pollution from land-based, atmospheric, offshore, deepsea, and dumping activities are fleeting. For land-based and atmospheric pollution, for example, states must merely "endeavour" to establish within IGOs rules for controlling these sources and then adopt national laws that only "take into account" such rules (Arts. 207, 212). Thus, the treaty does extraordinarily little with these two sources of marine pollution. Based on this alone the convention, in an environmental context, can be labelled a failure. Land-based pollution contributes 80 to 90% of all marine pollution and air pollution adds more than was previously thought.⁵¹³ Although controlling these sources is markedly complex,⁵¹⁴ by failing to address them there is an extraordinary gap in the pollution control regime the LOSC seeks to build.

c. The LOSC and Ship Pollution

Part XII's most comprehensive articles concern ship pollution, thus a closer look at these will be taken by highlighting several of the more important provisions. Flag, coastal, and port states are the three classes of states that may take action to control ship pollution.⁵¹⁵

i. Flag and Port State Jurisdiction. The LOSC requires flag states not only to adopt laws that "have the same effect as generally accepted international rules and standards" (Art. 211(2)), but also to

enforce such rules "irrespective of where a violation occurs" (Art 217(1)). "If properly implemented [these articles] could substantially improve the efficacy of flag state enforcement."⁵¹⁶

The port state's power to take proceedings against a foreign ship is the most novel feature of Part XII. Such a state may take action for violations in its internal waters, territorial sea, and EEZ, and is able to investigate and prosecute ships that have violated applicable international rules anywhere on the high seas (Art. 218(1)). It must investigate such violations if the flag state requests (Art. 218(3)). If the violations occur in the internal waters, territorial sea, or EEZ of another state, the port state must investigate if the coastal state requests (Art. 218(3)). Also, a port state is obligated to take administrative measures to prevent from sailing a ship in violation of international rules relating to seaworthiness (art 219).

This concept of universal port state jurisdiction is potentially an effective weapon against ship pollution.⁵¹⁷ No longer does the flag state have the sole right to proceed against its ships that pollute the high seas, a right some states have not exercised. No longer can a ship avoid the consequences of its violations in a state's maritime zones by simply leaving them to escape the coastal state's jurisdiction.

Even so, port state jurisdiction is not mandatory for high seas offenses and it is difficult to see a port state exercising jurisdiction over such violations.⁵¹⁸ Only for serious discharges would a port state be motivated to take the time and incur the expense of an investigation. A port state may also lack incentive to investigate discharges in another state's waters.⁵¹⁹ A number of European states have in operation a form of port state control. This regime does not give the port state as much authority as the LOSC. Under the Paris Memorandum of Understanding on Port State Control, parties must inspect a certain percentage of ships that enter its ports but it may not prosecute such ships and may only detain them if they present a real threat to the marine environment or the well-being of the crew.⁵²⁰ The agreement came into effect 1 July 1982 and concern has been expressed that the disparity of inspection levels and standards of the parties may give rise to "ports of convenience."⁵²¹ Such a problem will be possible under the LOSC. A further drawback with port state jurisdiction is that it is subject to safeguards that allow the flag state to preempt port state proceedings.⁵²²

Despite these problems, it is healthy that the power to act is there, for "increasing the number of potential prosecutors should facilitate the control of pollution and circumvent the problems created by States which are unable or unwilling to effectively exercise their jurisdiction over their ships."⁵²³

ii. Coastal State Jurisdiction. The issue of coastal state jurisdiction over foreign ships has for years seen considerable debate between maritime and coastal states. Shipping countries fear this jurisdiction will significantly interfere with ocean commerce. Coastal states want more authority over ships in their maritime zones to protect their marine environment and because of their belief maritime states fail to sufficiently enforce ship pollution laws. At UNCLOS III compromises were reached allowing for different degrees of coastal state prescriptive and enforcement jurisdiction in the territorial sea and EEZ.

In its territorial sea the coastal state may adopt any law provided it does not hamper innocent passage (Arts. 21(1)(f), 211(4)). There are two significant qualifications to this prescriptive power. One, no DCEM standards, which are vital for effective control of ship pollution,⁵²⁴ may be set unless they give "effect to generally accepted international rules and standards" (Art 21(2)). Two, a ship's passage is only non-innocent if it commits an "act of wilful and serious pollution..." (Art. 19(h)). Rarely will a discharge be "wilful and serious." A coastal state's enforcement jurisdiction in the territorial sea is generally unlimited and this is akin to customary law.⁵²⁵ Yet, before exercising this jurisdiction the coastal state must have clear grounds for believing a ship has committed an offense and its competence is subject to the safeguard provisions.

Therefore, the LOSC tilts towards the interests of shipping in defining coastal state jurisdictional rights in the territorial sea. Under customary law, coastal states may arguably prescribe DCEM standards,⁵²⁶ thus the coastal state has actually lost ground.⁵²⁷ And the safeguard provisions, which allow the flag state a wide right to preempt coastal state enforcement proceedings have been referred to as making a "mockery" of coastal state jurisdiction.⁵²⁸ The right of preemption is lost only if the coastal state has suffered major damage or the flag state repeatedly disregards its obligations to effectively enforce international rules (Art. 228(1)). O'Connell says "[i]t is difficult to see how this...would work in practice..."⁵²⁹

As for coastal state jurisdiction in the EEZ, the littoral state may adopt ship pollution laws that give effect to "generally accepted international rules and standards" (Art. 211(5)). A coastal state may, however, adopt stricter laws where "special circumstances" exist in the EEZ (Art. 211(6)). Yet these laws may only implement "applicable" international rules. Thus, in the EEZ there is no role for the coastal state. It can take no initiative and its laws may go no further than generally accepted international rules that are traditionally not vigorous.

Coastal state enforcement powers in the EEZ are equally meagre. Only when "there are clear grounds for believing" a ship has committed a violation that results "in a discharge causing major damage or threat of major damage" may the coastal state prosecute (Art 220(6)). But, in the typical case, that of pollution that is not significant, the coastal state may only require information from the ship (Art. 220(3)). Even when a "substantial discharge" causes "significant pollution," the coastal state may only inspect the ship if it refuses to give information or the information is "manifestly" false (Art. 220(5)). Thus, coastal state powers in the EEZ are significantly limited.⁵³⁰ A ship discharge that causes major damage is unlikely and the evidence to prove it not easily obtainable.⁵³¹ And, were enforcement action taken the flag state can invoke safeguard articles. The LOSC, however, at least allows concerned coastal states to take action in the EEZ in limited circumstances, which they will be particularly inclined to do if natural resources in this zone are being harmed by ship pollution.

iii. Conclusion. In sum, it is error to conclude that the LOSC makes the coastal state "the guardian of the marine environment..."⁵³² On the contrary, the flag state retains its predominance in the creation and enforcement of ship pollution laws and it, if any state, is the guardian. Granted, steps have been made that infringe upon the flag state prerogative: port state enforcement allows action to be taken for violations on the high seas and in another state's waters, coastal state jurisdiction is able to reach the extreme pollution incidents in the EEZ, and the coastal state can set more protective regimes in its EEZ if ecological conditions warrant and it has significant powers over ice-covered areas (Art. 234). But the LOSC's jurisdictional provisions are not revolutionary: most port and coastal state jurisdiction is permissive, not mandatory; coastal state jurisdiction in the EEZ is closely restricted and in the territorial sea

has been weakened; and port and coastal state proceedings may be preempted by the flag state.

The battle between shipping and coastal interests has been won by the maritime states.

5. The Potential of Part XV to Resolve the Ambiguities of Part XII

As a skeptical view of the LOSC is taken here, fairness requires a discussion of the possibility that clarification will be obtained through the convention's dispute settlement procedures.

These procedures makeup Part XV of the LOSC and have been described in other studies.^{532a} In sum, they provide that all disagreements are to be peacefully settled by any means the parties choose (Arts. 279-280). If settlement is not reached, the dispute must be submitted to binding settlement procedures (Art. 286). Several forums are named to handle these procedures: the International Tribunal for the Law of the Sea, the ICJ, arbitration tribunals, and conciliation commissions. There are, however, some exceptions to compulsory settlement and these are set forth in Articles 297 and 298, of which only 297(1) is relevant for this thesis. This provision begins by saying that a coastal state's exercise of its sovereign rights or jurisdiction is free from compulsory dispute settlement except in three instances. Before looking at these three, it appears this exclusionary clause cuts a wide path through the compulsory dispute settlement requirement. Furthermore, in discussing an early version of Article 297, Adede stated: "Disputes arising from the conduct of states in their territorial sea are presumed to be unquestionably within the competence of domestic courts...Thus no specific exclusion was required under paragraph one...with respect to such disputes."⁵³³ Thus, excluded from binding settlement are the LOSC's duties on land-based and atmospheric pollution and pollution from activities conducted in the territorial sea, such as dumping and mining.

Returning to Article 297, its chapeau setting forth the general exclusion of disputes involving a coastal state's sovereign rights and jurisdiction is followed by three subparagraphs that include cases that, even though they involve a coastal state's sovereign rights and jurisdiction, are nonetheless subject to binding settlement. These cases are thus exceptions to the exclusionary clause. Subparagraph (a) says that allegations the coastal state has violated Article 58 are subject to third party settlement. Article 58 concerns the EEZ and gives all states in this zone freedom of navigation, overflight, laying submarine cables and pipelines and other lawful uses related to

these freedoms. Thus, if a coastal state were enforcing illegally strict environmental laws on ships passing through its EEZ, such state could be brought before a judicial forum. Subparagraph (b) is a corollary of (a). It provides that if a state is alleged to have abused its freedoms in a state's EEZ, then the dispute can go to third party settlement. Thus, if a ship violates internationally lawful environmental provisions in an EEZ, the matter is one for third party settlement. Subparagraph's (a) and (b) thus allow disputes concerning ship pollution that arise in the EEZ to be taken before a forum set up by Part XV.

Subparagraph (c) of 297(1) gives a broader opportunity for third party settlement of environmental disputes. It refers to allegations that the coastal state has violated "specified international rules and standards" for the protection of the marine environment. The operative word, "specified," takes a number of Part XII provisions beyond the ambit of compulsory dispute settlement, for Articles 192, 194, and 197-206 on general obligations lack specificity. On the other hand, the provisions on establishing and enforcing rules to control marine pollution from the various sources, may be sufficiently specific. Therefore, if a coastal state failed to abide by its environmental duties under these articles, it might be required to defend itself before a judicial body. Yet here Adede's correct interpretation mentioned above, that what a state does in its territorial sea and land territory is not subject to compulsory settlement, is to be recalled. Were it otherwise, a state would be required to answer such allegations that it is allowing too high a concentration of contaminants to be emitted from its factories, is misusing herbicides, and is illegally permitting discharges from outfalls. As it is, regarding environmental issues, third party settlement includes only EEZ ship pollution problems and polluting activities beyond the territorial sea. Of course, a coastal state's polluting activities must effect another state's interests and not just the oceans commons, for actio popularis is not recognised.

Although the reach of the compulsory dispute settlement procedures over environmental issues is hardly comprehensive it may be sufficient to satisfy the concerns raised in the above discussion of Part XII. This review of Part XV was undertaken to determine if it had the potential to clarify the ambiguities in Part XII. The answer is yes. First, the compulsory dispute settlement procedures do cover environmental activities that relate to provisions containing the same or similar unclear words and phrases as are in the environmental articles

not subject to impartial review. For example, judicial interpretation of "international rules" in Article 211(2)(5) on ship pollution, that is subject to third party settlement, will be valuable for understanding "internationally agreed rules" in Article 207(1) on land-based pollution that is not so subject. Likewise, if a decision clarifies the meaning of "significant pollution" in Article 220(5) on ship pollution, this will aid understanding "substantial pollution" in Article 206 on land-based sources. Second, the ambiguous phrases of Part XII also appear in other Parts of the LOSC. Thus, if a tribunal interprets, for example, "generally accepted international regulations" in Article 41(3) on traffic separation schemes in international straits, this will aid interpretation of Part XII's "generally accepted international rules."

Thus far, this discussion has concentrated on judicial dispute settlement. Yet other means of settlement may also contribute to clarification of Part XII. Article 284 provides that any disagreement may be submitted to conciliation. A conciliation commission's report is only a suggestion; it is not binding. Unlike courts and arbitration tribunals, conciliation commissions typically are more concerned with reaching a negotiated settlement influenced by non-legal considerations than with interpreting legal instruments and making pronouncements on the law.⁵³⁴ Even so, depending on the commission's mandate and the manner in which it carries out its responsibilities, its proposals may contribute to understanding the ambiguous language of Part XII as much as would the decisions of a judicial tribunal.

It is the opinion of "most experts that one of the great achievements of [UNCLOS III] was that it established a very strict method of dispute settlement for most disputes that might arise as to the interpretation and application of the Convention."⁵³⁵ This assessment is incorrect regarding environmental provisions. For if all a state's marine polluting activities carried out on its land territory and in its territorial waters are exempt, the great majority of polluting activities will not be subject to third party review. Basically, only some ship pollution, deepsea mining, and the odd dumping operation will be subject to impartial review. On the other hand, if one is looking only to compulsory dispute settlement for assistance in interpreting vague terms, then this large gap is not so troubling, for interpretative guidelines can be gained by analogy from non-environmental disputes as well as from disputes that concern ship pollution

and activities beyond the territorial sea. Less optimistically, uniform interpretation and jurisprudence may not develop from Part XV because it provides for a multiplicity of available fora. While this has the advantage of encouraging the use of Part XV, it is also possible that conflicting interpretations will result.⁵³⁶ Another factor that may impair the development of consistent law is that, in some instances, the decision-making panel need not be versed in law. The qualifications of conciliators are that they enjoy the highest reputation for fairness, competence, and integrity (Annex V, Art. 2). Arbitrators are to have similar characteristics and be experienced in maritime affairs (Annex VII, Art. 2). Judges that are not law-trained may be less inclined to carefully review and respect prior decisions.

In the end, the value of Part XV, which sets in place procedures whereby a body of case law can be developed to give concrete formulation to principles and broad terms, depends upon what use states put it, and this will not be known for many years.

6. Conclusion

The LOSC's environmental provisions, as stressed, rest upon an understanding of "international rules" and the relationship between such rules and national laws. Each of these elements have been awkwardly drafted. In fact, obscure wording plagues much of the text, leaving one apprehensive about the value of the treaty.⁵³⁷

Generally, the LOSC does little to develop international law where it is most needed. Thus, its second major deficiency is its scant attention to land-based sources. In effect, nothing is done about this problem, nor with atmospheric pollution. Consequently, the treaty addresses only about 20% of the marine pollution problem.

The convention does add a bit to control of dumping but this is reasonably well covered by the various dumping conventions. While the LOSC's treatment of ship pollution is detailed, the overall result is mixed. In fact, the law for ship pollution is already fairly well developed since entry into force of MARPOL 73/78.

Should the LOSC come into force, it is difficult to assess what worth its environmental provisions will have considering their overriding precatory and vague nature. Ultimately, all depends upon the approach states take to interpreting the convention. Some states may interpret it restrictively and accept only specific and unambiguous obligations. Other states might accept as responsibilities all general language of an obligatory character, respond to ambiguous language, and take action

to the fullest extent possible where action is discretionary.⁵³⁸ Knowledge that recourse to compulsory dispute settlement procedures is possible may promote this latter approach.

In addition, the LOSC's effectiveness depends so much on regimes and institutions beyond it. Its repeated references to "international rules" requires an examination of convention-based rules of marine pollution control. If these are strong, the treaty may significantly develop the environmental law of the sea by requiring nonparties to such conventions to adhere to their terms. The LOSC's environmental articles are also replete with references to "the competent international organisation." Directing the world community to other forums to solve the marine pollution problem will enhance the importance of international and regional organisations. Determining which IGOs have a role to play and how they work together to accomplish the goals set by the LOSC is a worthwhile study.

CHAPTER FIVE

GLOBAL ENVIRONMENTAL LAW OF THE SEA OF A SPECIFIC CHARACTER: REGULATING DUMPING AND SHIP POLLUTION

A. Introduction

This chapter examines two global treaties, MARPOL 73/78⁵³⁹ and the LDC.⁵⁴⁰ The analysis of each begins with a few words about their origins followed by an explanation of the institutional arrangements for administering each. This latter exercise is necessary for two reasons. One, such bodies are IGOs involved in interorganisational coordination of marine pollution activities, a subject of the thesis and addressed in detail in Part III. Two, the administering bodies are the focal point of MARPOL 73/78's and the LDC's development and implementation and thus crucial to their effectiveness. This effectiveness is not examined by a review of treaty terms, something extensively done in other studies. Rather, the conventions' value is assessed by studying how effectively they have been implemented, interpreted, and developed by the institutions set up to administer them, and this exercise comprises the bulk of the chapter.

B. MARPOL 73/78

1. Introduction

Oil pollution from ships was the first kind of marine pollution to be internationally controlled. In 1954 the OILPOL Convention was adopted.⁵⁴¹ It prohibits oil discharges except when conditions on rate of discharge, total amount discharged, and geographic location are satisfied (Art. III(b)). Although the convention has been ratified by states that collectively own over 90% of the world's tanker tonnage it has not been, due largely to inadequate enforcement, overly successful in preventing deliberate oil discharges.⁵⁴² Under the treaty enforcement rests almost completely with flag states. This drawback and others, such as the convention's limited definition of "oil" (Art. I(1)), its failure to regulate ship design and other sources of ship pollution, such as chemicals and sewage, combined with the Torrey Canyon incident and pressure by the United States for more effective environmental

protection, prompted IMO to draft the MARPOL Convention that was adopted at a 1973 conference. The treaty, as modified by a 1978 Protocol, is known as MARPOL 73/78 and its Article 9(1) states that it supersedes the OILPOL Convention.⁵⁴³

2. Institutional Arrangements

MARPOL 73/78 names IMO as the administering body and IMO's Marine Environment Protection Committee (MEPC) is intimately involved with the convention. In fact, MARPOL 73/78 occupies the bulk of the MEPC's time.⁵⁴⁴

IMO's duties include acting as a repository of information. Contracting states are required to investigate any casualty involving their ships that cause major environmental harm and supply IMO with the findings (Art. 12). There are a number of provisions requiring states to provide IMO with information regarding their implementation of MARPOL 73/78. If, for example, a port state notifies a flag state that one of the flag state's ships may have violated the treaty, the flag state is to inform IMO of the action taken in response (Art. 4(3), 6(4)). Also, parties are to communicate to IMO the texts of their laws on matters within the scope of the treaty, specimens of the ship certificates issued under the convention, location and capacity of their reception facilities for ship wastes, an annual statistical report on penalties imposed for violations, and general reports on "the results of the application of the present Convention..." (Art. 11(1)).

IMO's most important role, however, is preparing amendments to MARPOL 73/78's long, technical annexes that may be accepted by parties through a tacit amendment procedure (Art. 16).⁵⁴⁵ The MEPC has already adopted many amendments and the tacit amendment procedure, which avoids time-consuming formal ratification, places the MEPC in a pivotal position to influence the treaty. The Committee also has a programme to develop uniform interpretation of certain provisions,⁵⁴⁶ many of which are intricate and susceptible to different understandings.

3. Development of the Convention

MARPOL 73/78 goes far beyond the OILPOL Convention. While the latter was directed only at oil pollution, MARPOL 73/78 addresses five pollutants. Annex I deals with oil and "oil" is broadly defined (Annex I, Reg. I(1)); Annex II with harmful substances carried in bulk; Annex III with harmful substances carried in packages; Annex IV with sewage; and Annex V with garbage. Under MARPOL 1973 Annexes III, IV, and V were

optional; any state ratifying it had to accept at least Annexes I and II but could declare its non-acceptance of Annexes III, IV, and V (Art.14).

MARPOL 1973 was to enter into force twelve months after at least 50% of the gross tonnage of the world's merchant shipping had ratified the treaty (Art. 15(1)). But by late 1978 states with only 0.03% of the world's merchant fleet had ratified it.⁵⁴⁷ Although political inertia and pressure from the maritime industry reluctant to incur the costs the treaty would impose inhibited ratification,⁵⁴⁸ the basic problem was that the requirements of Annexes I and II went beyond the limits of 1970's technology.⁵⁴⁹

A primary purpose of the 1973 conference was to develop measures for preventing oil discharges that were less subject to human error.⁵⁵⁰ Thus, segregated ballast tanks (SBT)⁵⁵¹ were to be placed on new tankers, though this was only feasible for existing tankers. Complex monitoring and control equipment was also required.⁵⁵² Yet, by 1973, work on monitoring equipment had concentrated only on crude oil and not on the many other kinds of oil, and the accuracy of this equipment was imperfect.⁵⁵³ Even less was known about the technology needed to comply with Annex II's regulation of chemical tankers.⁵⁵⁴ A problem besetting both annexes was their requirement for port reception facilities. These are required to receive wastes that may not be disposed of at sea. But installation of reception facilities is expensive, restraining acceptance of the treaty.⁵⁵⁵ Lastly, requirements of Annexes I and II are not always compatible. For example, oil must be discharged above the water line and chemicals below. Yet, at times some ships carry both Annex I and II substances.⁵⁵⁶

All technical and practical problems with the annexes had to be solved before states would ratify.⁵⁵⁷ This factor, coupled with demands by the United States, which suffered a series of tanker casualties off its coasts in 1976 and 1977, led to a 1978 conference to consider ways the convention might be brought into force.⁵⁵⁸ At this conference a Protocol was adopted stating that Annex II will not come into force until three years after Annex enters into force. This provided time to solve Annex II's technical problems that were more complex than those with Annex I.⁵⁵⁹ This delay may actually have expedited ratification⁵⁶⁰ and the 1978 conference did improve the annexes.⁵⁶¹

MARPOL 73/78 did enter into force on 2 October 1983. Annex I became applicable on that date and though Annex II was to come into force on 2 October 1986, in 1985 the MEPC agreed its implementation

should be delayed until April of 1987 so that it might enter into force at the same time as amendments to the annex enter into force.⁵⁶² The optional annexes, Annexes III, IV, and V, also require ratification by at least fifteen states, that combined merchant fleets of which are at least 50% of the gross tonnage of the world's merchant shipping (Art. 15(2)). As of 18 March 1985 the status of the annexes was:⁵⁶³

<u>Annex</u>	<u>No. of States Ratifying</u>	<u>Percentage of World Merchant Tonnage</u>
I	35	78.66
II	35	78.66
III	22	41.13
IV	22	41.13
V	21	36.91

All the marine pollution conventions studied in this thesis, except the United Nations conventions, rely upon an IGO to administer and develop them. MARPOL 73/78 is no exception and it may be that IMO's efforts to implement and improve this treaty have been considerably more involved and successful than that of other administering bodies.

As mentioned, the treaty contains a number of reporting requirements. The parties, acting within MEPC, have approved standard formats for reporting obligations required by Articles 4, 5, 6, and 11 as these provisions relate to Annex I.⁵⁶⁴ There are three general formats: (a) an annual report of incidents involving oil spillages of 100 tonnes or more; (b) an annual enforcement report concerning coastal states' allegations of discharge violations referred to flag states and the flag states' response, and flag states' allegations of inadequate reception facilities referred to port states and the response of port states; and (c) an annual assessment report to provide data to assess the overall effectiveness of MARPOL 73/78, containing reports by port states on the effectiveness of port state control and on violations resulting in detention or denial of entry, and a report by all states of penalties imposed for MARPOL 73/78 violations.⁵⁶⁵

Under Article 8, states are to report on pollution incidents in accordance with the provisions of Protocol I to the treaty.⁵⁶⁶ The MEPC has developed this duty. There was an opinion that only incidents resulting in significant discharges need to be notified.⁵⁶⁷ It was,

however, agreed that all discharges, other than those permitted under the convention, are to be reported.⁵⁶⁸ At its April 1985 session, the MEPC also improved Protocol I.⁵⁶⁹ It is now clear that incidents involving substances other than oil are included.⁵⁷⁰ Furthermore, not only are masters of ships involved in an incident required to report but now so are masters of any "ship engaged in or requested to engage in an operation to render assistance to or undertake salvage of a ship involved in an incident..."⁵⁷¹ Lastly, some provisions in the recommendatory draft Guidelines for Reporting Incidents Involving Harmful Substances⁵⁷² have been moved to the binding Protocol.⁵⁷³

Collectively, these various reports will, provided they are properly completed and faithfully submitted,⁵⁷⁴ provide information upon which to assess MARPOL 73/78's effectiveness, something typically difficult to determine with marine pollution control treaties. This uniqueness of MARPOL 73/78 is due not merely to its provisions but also to the manner in which the MEPC has developed them. The Committee's work has been helpful in other areas.

Regulations 5, 5A, and 8 of Annex II contain criteria for the discharge of noxious liquid substances. The regulations state that the procedures and arrangements by which chemical tankers can satisfy the criteria must be approved by the flag state but be based on Procedure and Arrangement Standards (P & A Standards) developed by IMO, giving the organisation an instrumental role in ensuring that Annex II is implemented, and IMO has done considerable work developing P & A Standards. The MEPC has developed the Standards and at its last session approved revisions it expects to adopt at its December 1985 meeting.⁵⁷⁵ The changes are based in part on operational trials conducted with the original Standards, which revealed problems in their application. Remedying these will enhance timely entry into force of Annex II.⁵⁷⁶ IMO thus carried out its obligations to develop P & A Standards that provide a uniform international basis for the guidance of states in approving methods by which ships carrying noxious liquid substances in bulk can comply with Annex II.⁵⁷⁷ The MEPC will keep the Standards under review.⁵⁷⁸

IMO's most significant work regarding Annex II, however, concerns amendments. A 59 page text of proposed amendments has been approved by the MEPC⁵⁷⁹ and its adoption has been given priority for the Committee's December 1985 meeting.⁵⁸⁰ The MEPC believes the proposed amendments, by significantly reducing the generation of ship wastes, will not only effect a remarkable reduction of ship-generated pollution by noxious

liquid substances, but will also drastically reduce environmental problems ashore involved with the treatment and ultimate disposal of ship wastes.⁵⁸¹ The changes also provide for improved possibilities for executing effective port state control and should increase the likelihood of more ratifications.⁵⁸²

Some of the MEPC's other work involving Annex II concerns setting reception facilities guidelines; defining terms; and making plans to develop guidelines for implementation of Regulation 8, ship surveys, and port state control.⁵⁸³ An important part of the MEPC's present and future work with Annex II is its attempt to develop interpretations to some Annex II Regulations.⁵⁸⁴

As for the MEPC's work with Annex I, a number of long interpretations for numerous Regulations have been adopted⁵⁸⁵ and a 34 page text on Guidelines for Port State Control Procedures has been approved⁵⁸⁶ as has a 28 page text of guidelines for ship surveys.⁵⁸⁷ In addition, the Committee has adopted a number of amendments to Annex I that are to enter into force in early 1986.⁵⁸⁸ The amendments do not include new requirements but seek to resolve difficulties and provide a practical solution to implementation problems.⁵⁸⁹ Furthermore, as Annex I includes important provisions on equipment to be carried on board to ensure discharge limitations are met and since there have been problems with the effectiveness of such equipment, IMO has worked to improve the equipment. At each MEPC session in the past few years, substantial time has been devoted to the issue and the Committee has, among other things, approved several sets of guidelines for the operation of the equipment.⁵⁹⁰

One of the foremost problems that inhibited ratification of MARPOL 73/78 in the 1970s was the expense of constructing port reception facilities. Lack of these facilities continues to make problematic the effectiveness of the treaty. In 1983 the International Chamber of Shipping reported that it had "received a disturbingly high number of reports of inadequate facilities."⁵⁹¹ The following year the MEPC stated "that in many parts of the world reception facilities were inadequate or not available."⁵⁹² Of particular concern is insufficient facilities in special areas, particularly the Mediterranean,⁵⁹³ where discharges are prohibited.⁵⁹⁴ If a ship in a special area does not have a reception facility to discharge its wastes to, the novel special area concept will not be implemented.⁵⁹⁵ IMO has developed a questionnaire on reception facilities to determine whether such facilities

are available and, if so, who should be contacted for their use, whether charges are involved, etc.⁵⁹⁶ This project will enable information on the adequacy of reception facilities to be readily available to shipping companies.⁵⁹⁷ Other than such limited projects and exhortations for the compliance with this crucial part of the treaty, there is not much IMO can do, although it has, through its technical assistance programme helped states to develop reception facilities.⁵⁹⁸

As noted, the optional annexes are not in force. Questionnaires for each annex have been prepared to determine the problems inhibiting acceptance and possible solutions to such difficulties.⁵⁹⁹ Replies to the questionnaires for Annex IV have been received and in December 1985 the MEPC will consider the problems upholding ratification of this annex.⁶⁰⁰

4. Conclusion

MARPOL 73/78 represents a dramatic improvement over the 1954 OILPOL Convention and the common assessment is that it will make a significant contribution to reducing ship pollution.⁶⁰¹ Its structural requirements, such as SBTs, will limit environmental damage from accidental discharges caused by groundings and collisions. Discharge standards will reduce the amount of pollution caused by operational discharges. Indeed, the amount of oil entering the oceans has been appreciably diminishing in recent years.⁶⁰² An important provision requires parties to apply treaty terms to ships of non-parties "as may be necessary to ensure that no more favourable treatment is given to such ships" (Art. 5(4)). It may be possible to assess the treaty by the costs it imposes, and the structural and discharge control standards will impose significant direct and indirect costs on the shipping industry.⁶⁰³ In 1982, a year before Annex I came into force, an IMO publication stated:

[MARPOL 73/78] has already had a considerable influence upon tanker design and operations.

Most tankers built since 1973 have conformed to many features of the original MARPOL Convention -- for example, SBTs...the limitation on tank size and other structural arrangements have generally been followed, since...conformity to international standards is an important bonus when...selling a ship. Equipment, such as oily-water separators, is also widely used.

The 1978 Protocol has had an even greater impact, particularly because it was clear that...[it] would enter into force comparatively quickly.⁶⁰⁴

Such positive remarks must be tempered with recognition that none of the optional annexes are in force and the manner in which states will implement and enforce Annex I and II is yet unknown. Although the re-

sults of United States inspections, involving 2,095 ships in the second half of 1984, to check compliance with the treaty are encouraging. Of the ships, 94.5% complied with oil pollution prevention certificate requirements, 95.8% with oil record book duties, and 96.2% with equipment requirements.⁶⁰⁵ Yet, there are flaws in the oil discharge monitoring and control equipment that make their operation in accordance with the treaty problematic.⁶⁰⁶ Lack of reception facilities for oil and chemical wastes makes full implementation impossible. Even the Port of Rotterdam, an ultramodern and generally high standard port, has problems providing reception facilities.⁶⁰⁷ Such difficulties are not due to a failing by IMO, which is doing a number of things to solve the reception facilities problem and otherwise advance the convention. The MEPC has held MARPOL 73/78 under constant review and will continue to do so. This is particularly important since the shipping industry is characterized by rapid change and ship pollution control mechanisms are subject to technical advances.⁶⁰⁸ Meeting twice a year the MEPC has made significant and beneficial contributions to the treaty. From its beginning in 1973, MARPOL 73/78, despite its long delay in entering into force, is a vital part of the international law for the control of marine pollution and IMO has played a pronounced role in developing and promoting it.

C. The London Dumping Convention

1. Introduction

The initiative that resulted in the LDC was begun by the United States,⁶⁰⁹ which, in 1971, placed a draft convention to control dumping⁶¹⁰ before the United Nations Intergovernmental Working Group on Marine Pollution, a body preparing for the Stockholm Conference. A number of international conferences considered the draft before a London conference adopted the LDC. The agreement did not, however, contain provisions the United States sought, for its initiative was prompted by more reasons than just a concern for the health of the seas. While the United States was developing a draft treaty, discussions that eventually led to the ODC were ongoing. Indications were that the Scandinavian countries intended to present strong proposals to the Oslo Conference. Fearing the Oslo approach, though regional, might develop into a global convention detrimental to its interest in retaining the seas as a disposal resource, the United States sought to preempt this possibility by offering a draft convention to a wider forum.⁶¹¹ This draft was a

mild regulatory scheme, scathingly referred to by Canada as a "license to pollute."⁶¹² The draft, however, was greatly modified on its way through the various conferences to final acceptance at London and bears marked similarity with the ODC, discussed in the following chapter.

2. Institutional Arrangements

LDC parties did not establish a body to service the treaty. Rather, IMO provides the Secretariat, performing numerous administrative duties (Art. XIV). It supervises implementation, considers reports on dumping operations and the treaty's efficacy, and reviews convention annexes and recommends changes to them. Of course the entire IMO is not at the service of the LDC, only one IMO official is. As he has other responsibilities within the organisation, he is able to give the treaty only about 30 to 40% of his time.⁶¹³ A one person, part-time Secretariat is inordinately small for a global treaty of 56 parties.^{613a}

The LDC also has a Scientific Group on Dumping to assist the Secretariat in implementing, reviewing, and updating the treaty.⁶¹⁴ Though a subsidiary body, the Scientific Group plays a prominent role in the work of the LDC, for clarification and progressive development of it is dependent upon solid work by and agreement within this body.

3. Development of the Convention

a. Substances Regulated

All wastes are regulated by the LDC. They are not, however, dealt with similarly. Wastes are divided into three categories, the dumping of which (a) is prohibited, (b) may take place upon a specific permit, and (c) is allowed upon a general permit (Art. IV(1)). This is known as the black, gray, and white list system. The substances on the black list are set forth in Annex I of the convention and are considered the most harmful. Annex II contains the gray list of substances that may be dumped, but because these require "special care" a special license must be obtained prior to their disposal and it may place conditions on the dumping operation. All other substances, that is those on the white list, may be dumped under a general permit. Annex III sets forth a number of criteria a licensing authority is to consider in deciding whether or not to approve a dump, such as the character of the waste, proposed dumping site, and method of dumping.

Unfortunately, the LDC does not specify criteria for allocating substances to Annexes I and II. In order to review the status of the lists in the annexes and to provide a framework that allows new substances to be objectively assessed, the parties have sought to establish

such criteria;⁶¹⁵ no doubt a useful exercise since some of the substances were included in the annexes on the basis of little scientific evidence.⁶¹⁶ In 1977 the Scientific Group "pointed out that considerable advantage could be gained by following a uniform classification procedure for allocating substances to particular Annexes"⁶¹⁷ and agreed upon Draft Guidelines.⁶¹⁸ The LDC 1980 and 1981 Consultative Meetings, however, merely took note of the Guidelines and said they should not be rigidly applied because other criteria may be relevant.⁶¹⁹

Although the Scientific Group continued its work nothing had been decided by the 1984 Consultative Meeting, at which the parties decided "major efforts should be made" to develop allocation criteria for Annex I and II substances.⁶²⁰ An intersessional group was established to present proposals to the Scientific Group which will, in turn, report to the 1985 Consultative Meeting to be held in September.⁶²¹ As a first step to developing allocation criteria, the parties advised the group to clarify the concepts and purposes underlying the annexes and, based on this, to develop scientific rationale to support these purposes, including identification of characteristics of substances that might be included in the annexes.⁶²² For a treaty that has been in force nearly a decade, one would think the underlying purposes of its key provisions would be settled. Without allocation criteria it is possible the treaty has been prohibiting dumping substances the seas can safely absorb and permitting disposal of substances that should not be dumped.

It is important the LDC parties resolve this issue because other decisions depend on it. No agreement has been reached on whether lead should be moved from Annex II to Annex I⁶²³ and whether organosilicon substances should be deleted from Annex II.⁶²⁴ Both questions have been put aside until a determination is made of what criteria distinguish the two annexes.⁶²⁵ Furthermore, Annex II contains the nebulous term "significant amounts." If substances listed are present in a waste in significant amounts, then a special permit is required. Although the parties quickly agreed on an interim definition for this term,⁶²⁶ there is "general uneasiness" within the Scientific Group about it and some states find it "arbitrary and inadequate."⁶²⁷ A final solution will be attempted when criteria for allocation of substances to the annexes have been developed.⁶²⁸

More success has been had in establishing guidelines for interpreting Annex III criteria that govern issuance of permits. Guidelines

are needed because the criteria's nonspecificity has likely led to subjective interpretations and thus wide variations among states concerning the nature, quantities, and locations of dumping.⁶²⁹ Though attempts to add more criteria have failed,⁶³⁰ the 1980 Consultative Meeting adopted Guidelines for the Application of Annex III that parties "shall take full account" of when issuing permits.⁶³¹

Another implementation problem is that overall supervision of the dumping industry can vary. For example, in 1979 Britain licensed the dumping of 11.3 million tonnes of industrial and sewage wastes but sampled only 1% of industrial loads to determine if applications accurately stated the quantity and nature of the waste.⁶³² Such lax supervision, it is asserted, has led to serious violations of the LDC.⁶³³ Following this criticism test sampling of loads was to increase to 7%.⁶³⁴ This figure is short of the 10% proposed by the House of Lords Committee on Science and Technology.⁶³⁵

b. Exceptions

The LDC has numerous exceptions to its obligations. Such provisions dilute the treaty's effectiveness but attempts have been made to elucidate some of the exceptions and thus limit subjectivity in their use.

Article V(2) exempts Annex I substances from the prohibition against dumping if they pose an unacceptable risk to human health and no other solution than dumping is feasible. This emergency exception is highly uncertain and one publicist concludes it "is a sleeping giant" that if awakened "could seriously undermine the notion of a blacklist."⁶³⁶ Although the clause has been seldom invoked,⁶³⁷ it can be interpreted to allow any substance to be dumped that would pose a significant risk if disposed of on land. Thus, it could be argued that all radioactive waste must be placed in the ocean. Recognising this vagueness of Article V(2) the parties adopted Interim Procedures and Criteria for Determining Emergency Situations that elucidate the Article.⁶³⁸ Also, the Scientific Group proposed developing criteria for designation of emergency dumping sites, though little work on this seems to have been done.⁶³⁹

The prohibition of dumping Annex I substances is also lifted if those substances occur only as a "trace contaminant" in a waste (Annex I(9)) or are "rapidly rendered harmless" by the ocean (Annex I(8)). In 1978 Interim Guidelines for the implementation of these exceptions were adopted that include test procedures for interpreting

"trace contaminant" and "rapidly rendered harmless."⁶⁴⁰ The Guidelines were amended and expanded in 1979⁶⁴¹ and in 1984 the Scientific Group reported it would continue to pursue improvements in the definition of "trace contaminants."⁶⁴² Such activity does not necessarily mean a great deal is being accomplished and it has been said that the attempts to clarify "trace contaminants" "are no less baffling (and therefore no more useful in practice) than the original opaque phrase that has given rise to the effort."⁶⁴³ The value of the efforts to elucidate the "harmlessness" exception have also been challenged as "an extremely vague statement of the desiderata for any test procedure a Contracting Party may choose to employ..."⁶⁴⁴

Perhaps recognising some of these problems, the parties have adopted a prior consultation procedure that must be used by a state before invoking the exceptions. The process requires the scientific data used by a state to determine the acceptability of dumping a black-listed substance to be submitted to the Secretariat which distributes it to all parties so they may assess its validity and comment to the state proposing to dump.⁶⁴⁵ Although final decision is with the dumping state, the prior consultation procedure may encourage it to act cautiously.

c. Activities Regulated: Defining "Dumping"

The convention seeks to prevent marine pollution by dumping and defines "dumping" as, basically, "any deliberate disposal at sea" (Art. III(1)(a)).

Immediately after entry into force the question was raised whether incineration at sea was dumping, for although it is a method of disposal conducted at sea, it places nothing directly into the sea.⁶⁴⁶ Despite this ambiguity, the parties promptly acted to control incineration. Technical Guidelines on Incineration were adopted by resolution in 1977.⁶⁴⁷ The resolution recommends states implement the Guidelines and that the parties consider making them mandatory.

While Article IV(1)(a) prohibits dumping all substances named in Annex I, a 1978 amendment allows incineration of some blacklist substances.⁶⁴⁸ The amendment requires that incineration of such wastes "shall" comply with Regulations for the Control of Incineration that were also adopted in 1978⁶⁴⁹ and "take full account" of the Technical Guidelines.⁶⁵⁰

This work prompted a concern that by establishing incineration as a disposal method practiced in accordance with internationally accepted rules it would increase contrary to the parties' intention.^{650a} Indeed, the development of incineration rules can be looked upon negatively for what has arguable been done is to create another exception to the black-

list prohibition. Most delegations, while agreeing incineration is an interim solution, consider premature a proposal to set time periods during which incineration would be phased out in favour of land-based disposal because land-based alternatives are undeveloped.⁶⁵¹ It is, however, important to note that the parties consider incineration at sea an interim solution and that its acceptability may be reconsidered.

A loophole in the LDC rules on incineration is that wastes produced in a contracting state are being exported to non-contracting states to avoid incineration controls. This may result in neither the incineration Regulations nor Guidelines applying to the operation. The problem was addressed in 1980 with the adoption of a resolution that mentioned the need for improving implementation of the treaty, noted the problem of re-routing wastes, and resolved "that Contracting Parties...will, to the best of their ability, ensure that wastes exported to a non-Contracting Party for loading on board a marine incineration facility should be incinerated in accordance with the requirements of the [LDC]..."⁶⁵² Although the resolution is weak, it does represent a willingness to acknowledge problems with implementation and an attempt to solve them.

LDC parties have also attempted to strengthen the effectiveness of the incineration rules by defining "rapidly rendered harmless" and "trace contaminants" as these terms relate to wastes to be destroyed by combustion.⁶⁵³ Besides such regulation of the actual combustion process, LDC states are considering the need for control of cleaning and repairing incineration vessels. Proposals for mandatory supervision of such work will be discussed at the 1985 Consultative Meeting.⁶⁵⁴

Although LDC parties have been able to address incineration relatively unacrimoniously, the issue of radioactive waste disposal has engendered vigorous debate. Considerable time has been spent discussing two aspects of this issue: whether disposal of all radioactive waste should be banned and whether emplacement into the seabed of the waste falls within the definition of "dumping."

With regards to the first aspect, in 1983 a resolution was adopted calling for suspension of radioactive waste dumping pending the results of a comprehensive scientific and technical study of this activity.⁶⁵⁵ The study is to be submitted to the 1985 Consultative Meeting, at which proposals to amend the treaty to prohibit such dumping will likely be considered.⁶⁵⁶

As for the second aspect of the radioactive waste issue, at

the 1983 meeting participants learned of research being conducted by several states on the feasibility of emplacing into the seabed high level radioactive waste.⁶⁵⁷ Questions were raised whether emplacement into the seabed, as compared with disposal into the sea, is within the treaty's definition of "dumping."⁶⁵⁸ The LDC's definition refers to "any deliberate disposal at sea." The words "at sea" lead to two interpretations: (a) any disposal operation from a vessel is within the treaty because it is conducted at sea; and (b) only a disposal operation that leaves the wastes in the sea or on the seabed is within the treaty, and, as emplacement into the seabed does neither, such activity is not regulated by the LDC.⁶⁵⁹

The 1983 Consultative Meeting decided to handle the problem by assigning it to an intersessional group,⁶⁶⁰ which, unfortunately, was unable to agree on defining "dumping" and returned the matter to the 1984 meeting. Two draft resolutions were tabled at the meeting representing the two divergent views.⁶⁶¹ One says "dumping" includes seabed emplacement and disposal of high level radioactive waste into the seabed contravenes the treaty. The other proposed resolution says such activity is not to proceed until research proves it is technically and environmentally feasible, thus implying seabed emplacement is not dumping. As no accommodation between these opinions was reached, other than no seabed emplacement should take place until it is proven technically and environmentally feasible, the matter is to be taken up again at the 1985 Consultative Meeting.⁶⁶²

d. Reporting Obligations

States are to keep records of their dumping activities and send these to the Secretariat. Reports are to concern the environmental condition of the seas; the number of permits issued; the nature and quantities of all matter permitted to be dumped; and the location, time, and method of dumping (Art. VI(4)). Most countries, however, do not report.⁶⁶³ The following table presents information on dumping reports submitted from 1976 to 1982, 1982 being the most recent year for which information is available.⁶⁶⁴

<u>Year</u>	<u>No. of LDC Parties</u>	<u>No. of Parties Filing Dumping Reports</u>
1976	11	9
1977	14	12
1978	43	20
1979	43	21
1980	46	16
1981	47	17
1982	47	16

This record is not quite as poor as it appears. Those states that do most of the dumping, industrialized states, do report. Most of the non-reporting states do not dump or, if they do, the amount is small and the contents not particularly dangerous.⁶⁶⁵ Most in this group of states are developing countries and their failure may be due more to the lack of sufficient infrastructure and organisation than an intentional avoidance of treaty terms.⁶⁶⁶ Hindering effective reporting by some developed states are constitutional problems that the Secretariat believes are gradually being addressed and better record keeping on dumping and compliance with reporting duties can be expected.⁶⁶⁷

Even when reporting is done, it is often done improperly, so much so that the Secretariat must engage in considerable guesswork to determine what the reports purport to include and mean.⁶⁶⁸ Other problems include the Soviet Union's failure to report permits issued for dumping in its territorial sea;⁶⁶⁹ permits are "very often" issued as "open," with no quantity specified;^{669a} no state has ever used the format established for submitting dumping reports;⁶⁷⁰ and only rarely have special permits for incineration been reported immediately after issue as is required.⁶⁷¹ Reports on monitoring ocean health are only complied with haphazardly⁶⁷² and the approved format for monitoring data has never been used.⁶⁷³

Based upon information submitted, and despite the many problems with it, perhaps trends can be determined in the amount and hazardousness of dumping. If trends can be established, this may aid in determining the effectiveness of the treaty. With this objective in mind, an examination will be undertaken of information regarding the number of licenses issued, quantities of waste permitted to be dumped, and amount of hazardous substances in dumped waste.

The number of licenses issued by LDC states from 1976 to 1982 is as follows:⁶⁷⁴

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
<u>INCINERATION PERMITS</u>							
General	4	2	7	10	4	6	5
Specific	0	2	0	4	8	35	39
Total	4	4	7	14	12	41	44
<u>DUMPING PERMITS</u>							
General	389	484	518	598	597	587	570
Specific	24	18	19	12	12	15	16
Total	413	502	537	610	609	602	586
<u>TOTAL</u>	417	506	544	624	623	643	630

Little use can be made of this information to ascertain dumping trends. Although it appears a marked increase in the number of dumping licenses occurred in the late 1970s, this was due to the increasing number of states ratifying the LDC and to improved reporting. Furthermore, a permit issued may not necessarily be used, a general permit may license dozens of individual dumpings or just one, and it is not the number of dumpings that matter, but the quantity and, even more importantly, the harmfulness of the substances dumped.

Based upon information received by the LDC Secretariat, a study has been undertaken of the nature and quantities of wastes dumped by LDC parties from 1976 to 1981.⁶⁷⁵ The study was organised by dividing wastes into three categories, industrial waste, sewage sludge, and dredge spoils. An attempt was then made to assess the quantities of and harmful substances in each. It was planned that the substances to be studied would be those in Annex I and II of the LDC but, because of poor reporting this exercise was not considered useful. Thus, only three substances were assessed, cadmium, mercury, and lead, and only for two years, 1980 and 1981. The study found that almost all information the Secretariat holds on these comes from parties to the ODC, that is, West European states. Consequently, a worldwide assessment is impossible. As for quantities of waste, the ODC countries also supplied the bulk of information used in the study,⁶⁷⁶ though the United States and Canada sent useful data. As for the rest of the world, little information was received. Regarding the quantities of industrial waste, sewage sludge, and dredge spoils dumped, it is unwise to attempt to find trends because of the short reporting period, 1976-1981, and because the reporting of the early years is unreliable. With this caveat in mind, the apparent tendencies are as follows. It appears dumping of industrial wastes by West European and North American states has declined⁶⁷⁷ and that sewage sludge dumping by West European states and the United States has, if anything, slightly increased,⁶⁷⁸ but neither variation is large. For dredge spoils the information from Western Europe is too unreliable to enable anything to be said about a trend,⁶⁷⁹ while in North America the amount of this waste dumped appears to have remained static.⁶⁸⁰ Whether the quantities move up or down is, however, largely unimportant since it is the presence and amount of persistent, toxic substances in dumped waste that is the more telling feature.⁶⁸¹ But as mentioned, information on this is available only for 1980-1981, only for mercury, cadmium, and lead, and mostly from

Western Europe and trends cannot be determined from a two year period.

4. Conclusion

As the LDC deals with the same pollution source as the ODC, dumping, and as the two treaties were brought into force at about the same time, contain similar provisions, have been similarly developed, and a number of comparable conclusions can be drawn about the effectiveness of each, it is worthwhile to delay offering conclusions about the LDC until the ODC has been examined. This analysis is in the following chapter.

CHAPTER SIX

EUROPEAN ENVIRONMENTAL LAW OF THE SEA: LEADING THE WAY TO A HEALTHY MARINE ENVIRONMENT

A. Introduction

This Chapter examines five regional European treaties, the ODC, the Paris Convention on Land-Based Sources, the Helsinki Convention, the ECE Convention on Long-Range Transboundary Air Pollution, and the Barcelona Convention. The analysis of each follows the form used in discussing MARPOL 73/78 and the LDC. Thus, the origins and institutional arrangements for administering each are briefly set forth, followed by an examination of how the parties have developed the treaties.

Of course, marine pollution control agreements are not unique to Europe. In fact, there has been a worldwide regionalization of the law of the sea.

The reasons for regionalization are varied.⁶⁸² While the regional response to such problems as conservation and economics increased awareness of regionalism as a method by which international problems might be handled, it is the nature of marine pollution that made regionalism the major trend in ocean management. Only ship pollution and deepsea mining require greater than regional treatment. In most cases, marine pollution is a localized problem primarily the result of land-based pollution.

There are also a number of practical reasons for the regionalization trend. One, the phenomenon reflects the general inability of the world community to make solid global marine pollution control agreements. Reaching a global consensus is tortuous and the result often platitudinous. There is too much enmity in the world, and political, economic, and cultural differences create gulfs normally too wide to bridge. But countries of a region, at a similar stage of development, with a common culture, accustomed to dealing with one another, and sharing a common problem are better able to work together. Though this is not to deny that ancient grievances may exacerbate implementation of a regional treaty or even prevent its conclusion.⁶⁸³ Two, the preceived success of early regional marine

pollution agreements prompted similar approaches. Three, as marine regions usually have unique biological characteristics and environmental problems, the local approach allows the legal regime to be adapted to local features. Thus, regionalism has a scientific rationale. Four, the institution administering a regional treaty can be tailored to the needs of its members who will be better able to control and influence it than they can global agencies. Regionalization of the law of the sea is likely to continue for these reasons and because the LOSC has codified the trend.⁶⁸⁴

B. The Oslo Dumping Convention

1. Introduction

The origin of the ODC is due to the initiative of Norway and the outlandish voyage of the *Stella Maris*.⁶⁸⁵ This ship, a Dutch freighter loaded with a highly poisonous waste, sailed from Rotterdam in July of 1971. The barrels of waste were to be dumped in Holland's territorial sea, something Dutch officials disapproved of but were apparently unable to stop. Instead, they shrewdly sent a boat used for combatting oil spills to follow the *Stella Maris* at an embarrassingly close distance. The sheepish captain of the *Stella Maris* decided not to dump where planned but turned northward, intending now to dispose of his cargo 300 miles south of Norway. The Dutch passed this information on to the Norwegian government by telegraph. The message, however, erroneously stated the dump was to be within thirty rather than 300 miles of Norway's coast. The error was not intentional, but nor was it corrected.

This led to an uprise of public protest in Norway, which spread to the international press. The journey of the '*Stella Maris*' now became a veritable odyssey, again and again chased off as she was by diplomatic interventions of the states she approached. Fishing boats blockaded a Scottish harbour when the '*Stella Maris*' wanted to refuel there. Great Britain intervened with the Dutch Government when it became known that dumping was planned westwards of Scotland. Ireland and Iceland protested against a dumping position westwards of Ireland. Finally, the vessel carried the cargo back to the port of Rotterdam.⁶⁸⁶

Because it was not unlawful for the *Stella Maris* to dump anywhere, except in the territorial waters of a state, the absence of international regulation was exposed. This gap was partially closed in 1972 by adoption of the ODC.⁶⁸⁷ The general area to which the ODC applies is the high seas and territorial waters of the North Sea and Northeast

Atlantic (Art. 2).

2. Institutional Arrangements

The ODC establishes the Oslo Commission (OSCOM), composed of contracting parties and responsible for supervising the treaty's implementation, considering dumping reports, reviewing the condition of the seas, considering the treaty's efficacy, reviewing its annexes and recommending changes to them, and other administrative tasks (Art. 16, 17). A Secretariat staffed by three professionals assists OSCOM. This Secretariat is also the Secretariat for the Paris Convention on Land-Based Sources and the Bonn Agreement.⁶⁸⁸ OSCOM established a Standing Advisory Committee for Scientific Advice (SACSA) with the responsibility of providing advice on technical matters.⁶⁸⁹ Like the LDC's Scientific Group, SACSA plays a prominent role in the development of the treaty and initiatives towards more environmental protection usually are borne in SACSA.⁶⁹⁰

As OSCOM works closely with the Paris Commission of the Paris Convention on Land-Based Sources, a Joint Monitoring Group (JMG) was established by the Commissions to exchange technical information and coordinate monitoring activities.⁶⁹¹ The JMG oversees the Joint Monitoring Programme (JMP) that aims to assess the level of marine pollution, its hazards to human health and marine life, and the effectiveness of the ODC and Paris Convention for the reduction of marine pollution.⁶⁹² Work in the JMP has focused on cadmium, mercury, and PCBs.⁶⁹³ The programme is thus limited and the work done for which reports are available indicate a number of problems with the JMP, such as lack of intercalibration among participating laboratories, gaps in geographic coverage, inefficient guidelines, poor reporting, and a lack of understanding of the JMP's basic objectives.⁶⁹⁴ Discussion is underway about expanding the JMP beyond the few substances now studied, and now that the programme has been in operation a few years it may be expected to encounter less problems.

3. Development of the Convention

Provisions of the ODC are similar to the LDC's. Each treaty regulates the dumping of all kinds of wastes and does so with a black, gray, and white list system and the substances listed in the annexes of each are nearly the same, although the ODC does not mention radioactive waste. These factors have led to similarities in the implementation and development of the conventions. Consequently, this discussion of the ODC follows the format of the LDC analysis. In

addition, ODC developments are often treated summarily here because explanation of the issues was provided in the LDC discussion and it is unnecessary to repeat them.

a. Substances Regulated

The ODC does not contain criteria by which substances may be allocated to either Annex I or II. But unlike LDC parties, OSCOM agreed on allocation principles in 1980⁶⁹⁵ and will discuss improvements to these at its 1985 session.⁶⁹⁶ The criteria will be useful in OSCOM's quinquennial reviews of the annexes to assess substances and assign them to the proper annex.⁶⁹⁷

b. Exceptions

The ODC contains numerous exceptions to its obligations. It does not apply to ships with sovereign immunity (Art 5(6)), even though many dangerous substances are carried in government vessels.⁶⁹⁸ Annex I substances may be dumped in cases of force majeure (Art. 8(1)), in emergencies (Art. 9), and if the substances are "non-toxic" or "rapidly rendered" "harmless" by properties of the ocean (Annex I(1)(2)). There is also an exception for "trace contaminants" (Art. 8(2)).

OSCOM adopted interim definitions of "non-toxic" and "trace contaminants" in the mid 1970s.⁶⁹⁹ But, as these are imprecise,⁷⁰⁰ OSCOM has agreed upon procedures to measure, through six groups of harmonized tests, the toxicity, bioaccumulation potential, and persistence of wastes.⁷⁰¹ The tests are to determine if a substance is a "trace contaminant," if it will be rapidly converted by the sea so as to become harmless, and if it is "non-toxic." Once an ODC party has made the tests and decides the substance falls within the exception, it is not free to dump for it must also comply with a prior consultation procedure⁷⁰² like that discussed under the LDC.⁷⁰³ The procedure is also required when a state seeks to dump Annex I substances under the emergency exception and when its incineration of a waste is with a lower than 99.05% efficiency.⁷⁰⁴ The procedure has been used by Belgium regarding toxic munitions, by the Netherlands regarding waste from the production of a weedkiller, and by Britain regarding organochlorinated waste. Some ODC parties raised objections to aspects of these proposed dumpings and these concerns were taken into account by the dumping states before issuing dumping permits. For example, a proposed dump into the North Sea was switched to the deep Atlantic Ocean.⁷⁰⁵

c. Activities Regulated: Defining Dumping

The ODC defines dumping as "any deliberate disposal of substances

and materials into the sea by or from ships or aircraft..." (Art. 19(1)). Normal operating discharges, as those from ships and off-shore mining activities, are excepted (Art. 19(1)(a)). While MARPOL 73/78 covers ship discharges, no convention specifically deals with pollution caused by the offshore mining industry. OSCOM, however, adopted a resolution recommending control of the disposal of pipe metal shavings and other wastes from offshore oil drilling that may interfere with fishing and navigation.⁷⁰⁶ Since this action the number of requests for compensation submitted by professional fishermen has decreased⁷⁰⁷ and in 1984 SACS reported the resolution was being implemented and that no further steps were necessary.⁷⁰⁸ At its 1985 meeting OSCOM intends to discuss the question of the removal of seabed pipelines.⁷⁰⁹ These actions close somewhat the gaps in the law for the control of offshore mining.

The ambiguity of the ODC's definition of "dumping" as it relates to incineration was quickly addressed by OSCOM.⁷¹⁰ After adopting in 1977 a Code of Practice for incineration⁷¹¹ in 1983 OSCOM opened for signature a protocol on mandatory incineration rules.⁷¹² The rules are nearly identical to those accepted by LDC parties and, if accepted by all ODC states, will become Annex IV of the treaty.⁷¹³ Furthermore, ODC parties have agreed to meet before 1990 to set a final date for the termination of incineration at sea.⁷¹⁴ When such discussions begin, the parties have obligated themselves to negotiate in good faith on setting a precise date for ending this activity.⁷¹⁵ A last development of the treaty as it pertains to incineration is the 1983 agreement on principles to control repair and cleaning of incineration ships.⁷¹⁶

d. Reporting Obligations

Parties to the ODC are to submit reports on the same matters as are LDC states (Arts. 11-13).⁷¹⁷ These duties are far more faithfully carried out in the regional dumping treaty than the global one, although some ODC states now and then fail to report⁷¹⁸ and Spain has continually failed to report.⁷¹⁹ But the Oslo Secretariat does experience problems with the manner in which ODC states report. "[I]n many instances" the data for special permits does not include all that is required.⁷¹⁹ More information is needed on the components of the wastes, their toxicity and biodegradability, and the industrial processes from which they come.⁷²⁰ Nor have states regularly complied with the duty to justify incineration operations.⁷²¹ As for general reports on dumping, the information is often unclear, requiring the

Secretariat to interpret it or communicate with the contracting party for clarification.⁷²² Furthermore, dumping in internal waters is not required to be reported;⁷²³ even though most states voluntarily report,⁷²⁴ this is insufficient because a substantial amount of dredge spoil is dumped here⁷²⁵ and these reports do not include a chemical analysis of the waste, necessary information if the potential harm of this activity is to be known.⁷²⁶

OSCOM has compiled figures for 1976-1982 on the quantities of industrial waste, sewage sludge, and dredge spoil dumped, these figures, in thousands of metric tonnes, are:⁷²⁷

	<u>Industrial Waste</u>	<u>Sewage Sludge</u>	<u>Dredge Spoil</u>
1976	7,200	7,631	71,454
1977	7,516	8,176	76,962
1978	8,444	8,650	84,958
1979	9,891	8,799	64,538
1980	9,048	9,221	112,581
1981	8,685	8,632	111,051
1982	7,838	8,245	101,910

Since only information from 1980 to 1982 is reliable,⁷²⁸ there does seem to be evidence that the ODC may be preventing some dumping. While recognising that the economic recession may have contributed to the decline in dumping industrial waste,⁷²⁹ OSCOM believes national measures to implement the treaty have "clearly" resulted in a reduction in dumping of all three wastes.⁷³⁰ Belgium evaluated the effect of the recession on industrial waste dumping and when economic influences were removed the study found "clear evidence" that dumping by Belgian companies had decreased.⁷³¹ This was attributed to dumping control laws and increasing costs of transport and ocean dumping.⁷³²

The decline in sewage sludge dumping is primarily due to pressure from West German authorities on sludge producers to end their disposal at sea.⁷³³ Data from Britain, which is responsible for 95 to 99% of all sewage sludge dumped, shows that heavy metals in the waste have decreased notably.⁷³⁴ Waste from the production of titanium dioxide has declined because of pressure from Dutch and Belgian authorities and the French are ordering significant reductions in the dumping of phosphogypsum waste.⁷³⁵

4. Conclusion

It is difficult to determine the LDC's and ODC's affect on dumping practices and the health of the seas. The treaties probably have caused a decline in dumping practices that were causing particular concern when the agreements were signed.⁷³⁶ There also probably has been a decline in dumping due to administrative costs on industry to comply with national implementing regulations.⁷³⁷ Yet there is doubt whether the conventions have contributed to much of a general decline in dumping, particularly the LDC.⁷³⁸ It was hoped such an assessment might be made on the basis of dumping reports but, as explained, it is impossible to say anything, positively or negatively, about the global effect of the LDC. As for highly radioactive wastes in the LDC's Annex I, the IAEA is responsible for defining those that are unsuitable for dumping but it has failed to supply a definitive definition. In view of this and the inability of the Consultative Meetings to react vigorously, "it is highly doubtful that the Convention will result in any substantial reduction in radioactive contamination of the world's oceans."⁷³⁹

The ODC, on the other hand, may be limiting some dumping and contamination caused by dumping. Though such conclusion is tentative for not only have reports been submitted for too short a time to discern trends but the reports are not always complete. Furthermore, there are no data on pre-ODC -- as well as pre-LDC -- dumping practices so conclusions of a before and after nature cannot be made.

Although ODC states have fairly well adopted national measures to effectuate the treaty,⁷⁴⁰ it is uncertain if LDC states have done so.⁷⁴¹ In addition, there is little information on whether states are enforcing such national measures.⁷⁴² States are not obligated to inform the Secretariats of any investigations of dumping violations they have conducted nor of penalties imposed, and neither Secretariat has any knowledge about the way the treaties are enforced.⁷⁴³ The Task Team 2000, established by LDC states to develop a future strategy for the convention, made a couple of statements in its report that indicate problems exist with inadequate implementing measures and enforcement of such measures.⁷⁴⁴

When it comes to deciding how provisions ought to be interpreted or implemented, LDC states have problems. Although they did quickly and positively respond to the incineration issue, such action is an aberration. A good example of LDC inaction is the issue of establishing

criteria for allocation of substances to the annexes. Since the LDC has come into force, this question, and several others dependent upon it, has continually been before the Consultative Meetings. Adoption of allocation criteria, if they are scientifically sound and honestly implemented, will make the LDC a better treaty: wiser in its use of the seas as a waste disposal resource and more respected by its contracting parties. Resolution would free the parties of a problem that has pestered them for years and perhaps provide impetus for the prompt resolution of other problems. Of course, the radioactive waste issues have stymied the last three Consultative Meetings and the efforts to elucidate language granting exceptions have not been fully successful.

OSCOM, on the other hand, seems more able to make decisions and develop its treaty. Incineration was quickly addressed and brought within the treaty. There is now a question whether sea disposal of platforms used for offshore recovery of minerals is within the treaty. Yet, there seems to be a consensus that OSCOM has competence and regulations on such operations will likely be adopted.⁷⁴⁵ SACSA is studying problems caused by anti-fouling paints applied to pleasure boats. Though the contamination caused when these paints peel and enter the marine environment is not a result of dumping, OSCOM may regulate the paints.⁷⁴⁶ OSCOM has also been able to influence better implementation of the ODC. Whereas some permits were being issued without a time limit, pressure within OSCOM brought an end to this undesirable practice.⁷⁴⁷ A common incineration site has been designated where all incineration at sea is to be conducted and all such operations must now be controlled by a data recording device that cannot be influenced by the crew.⁷⁴⁸ SACSA is investigating the possibility of ensuring, by electronic means, that violations during dumping operations are detected.⁷⁴⁹ SACSA conducts paper exercises of the parties' response to a marine pollution emergency.⁷⁵⁰ A Code of Practice for the Dumping of Acid Wastes for the Titanium Dioxide Industry has been adopted, as have guidelines on methods of monitoring dumping grounds for sewage sludge, dredge spoils, and for monitoring areas where titanium dioxide wastes are dumped.⁷⁵¹ Whereas in 1981 26% of incinerated waste was not licensed, in 1982 this had been reduced to 13%.⁷⁵²

Besides these specific examples of OSCOM developing the ODC, the discussions it holds on particular dumping practices of a state may be an important factor in preserving the marine environment. A

state may be challenged to justify its practices and this may lead to the end or at least restriction of some practices.⁷⁵³ Such pressure is not brought to bear within the LDC Consultative Meetings, the size of which does not easily lend itself to scrutinizing the actions of one country.

These differing traits between the two dumping treaties are not only due to the marked disparity in the size and activeness of their Secretariats, but also to their differing scope, one being regional and the other global. This study gives some validity to the argument that regional IGOs and treaties have a better chance to succeed than global ones. The two treaties are similar in many respects yet OSCOM has moved its treaty forward more expeditiously than have the eight LDC Consultative Meetings.

There are other regional dumping treaties besides the ODC and it seems their number will grow. Where does the LDC fit in this network? Will it slowly die as states concentrate their efforts to control dumping within regional agreements?

Although this study has been critical of the LDC, it is recognised that its parties have been able to act with regard to incineration at sea and this is a partial rebuttal to the negative view of the convention. And perhaps one ought to reserve judgment until conclusion of the September 1985 Consultative Meeting at which a number of important matters will be addressed. How these are handled will give one a better idea of the LDC's effectiveness and future. Also, the LDC has symbolic value that does affect national decisions on dumping. For example, in March of 1975 the Finnish tanker *Enskeri* left Helsinki with a cargo of poisonous waste, intending to dump it in the South Atlantic.⁷⁵⁴ The cargo began to leak en route and at first no state would allow the *Enskeri* to enter its ports, giving the episode a look of the *Stella Maris* voyage. Meanwhile, Argentina, Brazil, South Africa, and Canada all called upon Finland to recall the ship. Even the United Nations Secretary General became involved. Finland did, eventually, decide not to dump and although it is unclear whether the LDC was the determining factor, its presence surely allowed protesting states to mount more effective diplomatic action.⁷⁵⁵

The LDC probably has a beneficial effect on administrators of national regulatory agencies who attend Consultative Meetings. The meetings also provide a clearinghouse for scientific information, as does the Scientific Group on Dumping, and allow dialogue between con-

tracting parties with different environmental policies.

Beyond these perhaps limited advantages, the LDC does have a role to play in the world network of marine pollution control agreements. It is the forum in which to discuss truly global dumping issues, as the radioactive waste problem, a conundrum with greater than regional ramifications. The LDC is best situated to study and develop alternative disposal techniques that will lead to a decline of ocean dumping. As a global convention, it can, perhaps, not only assist the work of regional dumping treaties but coordinate their activities. Furthermore, the LDC, along with its Secretariat, IMO, should take the lead in providing technical assistance to developing countries on dumping questions, something regional dumping groups are less likely to undertake. While Consultative Meetings deal with global dumping issues and provide an overall framework, it is for regional treaties to do the day to day, detailed work and to apply more stringent standards to reflect local problems. The fault with viewing the LDC with such a role is that not all its contracting parties participate in a regional dumping treaty. Nonetheless, the LDC is unlikely to be much more than it presently is. Indeed, as a global convention it may be performing as best as can be expected under the system of sovereign states, in times of economic restraint, and with difficult environmental problems the effects of which are unclear.

C. The Paris Convention on Land-Based Sources

1. Introduction

Adoption of the ODC provided an impetus for the conclusion of other environmental agreements and while the ODC success was fresh West European states turned their attention to the primary cause of marine pollution, land-based sources. A number of these states and the EEC Commission met in 1974 and agreed to the Paris Convention to address the intractable problem of land-based pollution.⁷⁵⁶ Eleven states and the EEC are parties to the treaty which covers the same ocean area as the ODC.

2. Institutional Arrangements

The convention establishes the Paris Commission (PARCOM) with administrative responsibilities similar to that of OSCOM (Art. 15-16). The Secretariat is the same as that serving the ODC. The convention also has a technical advisory group, the Technical Working Group (TWG). PARCOM's scientific work contributes to the JMP.⁷⁵⁷

3. Development of the Convention

Under the treaty, "pollution from land-based sources" means that

reaching the sea from rivers, the coast, and offshore platforms (Art. 3(c)). Air pollution is not specifically mentioned in the treaty, but PARCOM has been debating its competence over this source⁷⁵⁸ and has undertaken studies of the scientific aspects of air pollution and of the work being done by other IGOs in this area.⁷⁵⁹ If these studies suggest it would be useful and practical to control air pollution of convention waters PARCOM will consider whether the treaty needs to be changed to take specific measures in this field.⁷⁶⁰ In fact, there is a fair chance the treaty will be amended to give PARCOM specific competence over atmospheric pollution.⁷⁶¹

Implementation of the Paris Convention is largely concentrated in Article Four, which states the parties undertake to eliminate, if necessary by stages, pollution by substances listed in Part I of Annex A. Not only has the list system reappeared here, but the substances of the convention's black and gray lists are similar to those of the ODC and LDC. There is, however, a fundamental distinction between the systems. While the ODC prohibits the disposal of blacklist substances, the Paris Convention calls for an end to the pollution these substances cause. Furthermore, Article Four only requires parties to "undertake" to end pollution, "if necessary by stages." Since there is no obligation to end disposal of blacklist substances and since the duty to eliminate pollution caused by them is tentatively expressed, it is a mistake to conclude that this treaty has a blacklist in the sense that idea is usually understood. The disparity between the ODC and Paris Convention in dealing with the same hazardous substances is symptomatic of the perplexing problem of land-based pollution.

Article Four goes on to require that elimination of pollution from blacklist substances and the strict limitation of pollution from graylist substances "shall" be achieved by implementing programmes and measures. These implementation methods "shall" include specific regulations or standards governing (a) the quality of the environment, (b) discharges into the convention area and watercourses affecting this area, and (c) the composition and use of substances and products that cause land-based marine pollution. The programmes and measures are to "take into account the latest technical developments" and "shall contain time-limits for their completion." To assist PARCOM in developing abatement programmes, the treaty requires the parties to establish complementary scientific research programmes and to progressively estab-

lish monitoring systems to assess existing marine pollution and the effectiveness of the Commission's measures to reduce it (Art. 10-11).

To implement Article Four PARCOM uses a systematic approach. The Commission has not attempted to address all hazardous substances but only a few of the more dangerous ones. The work on each typically begins with trying to determine the origin of the pollution, often a difficult task because sources are frequently diffuse. Only once a contaminant's origins have been identified can a decision be taken regarding programmes and measures of control.⁷⁶²

PARCOM's substantive work thus far has been directed at mercury; oil; PCBs and PCTs; cadmium; aldrin, dieldrin, and endrin; and discharges from the titanium dioxide industry.⁷⁶³ Preliminary research on air pollution has been undertaken and recently consideration has been given radioactive discharges from nuclear power reprocessing plants.⁷⁶⁴ As for PARCOM's research and monitoring activities, these are concentrated within the JMP.

Reviewing PARCOM's Annual Reports with the objective of determining how it has developed the convention, one is struck by the slowness with which it operates and its reluctance or inability to agree upon binding decisions and to adopt measures that will make a significant reduction in land-based pollution. These characteristics can be illustrated by discussing the work on a few substances. In this analysis it is to be kept in mind that the Commission's work began before the treaty entered into force in 1978. An Interim Commission met between 1974 and 1978, not only to prepare for PARCOM's work when the convention entered into force, but also to begin that work.⁷⁶⁵

Regarding cadmium, in 1979 PARCOM instructed the TWG to collect information on the sources of pollution by cadmium and the possibility of reducing cadmium in the environment.⁷⁶⁶ By 1983, however, the information collection phase was not complete⁷⁶⁷ and not until 1984 was something substantively done. In 1984 most parties agreed to accept the mild recommendation that they "should take all necessary measures to remove...cadmium from industrial point sources..." and that "product control oriented measures should be adopted so as to remove as much as possible of the cadmium circulating in the environment."⁷⁶⁸ Spain and Britain reserved their position on this recommendation because its first part was covered by a draft EEC Directive and they wished to await EEC discussions on this Directive before taking action in PARCOM.⁷⁶⁹ Thus, after six years of studying cadmium all PARCOM has done is adopt -- and

not even unanimously -- a mildly worded recommendation that restates an EEC draft Directive.

The Interim Paris Commission recommended the use of aldrin, dieldrin, and endrin be gradually abandoned when less harmful substitutes were available,⁷⁷⁰ a recommendation reaffirmed by PARCOM in 1979.⁷⁷¹ In 1984 the TWG said less harmful substitutes exist for most uses of "the drins,"⁷⁷² yet no decision was taken by PARCOM. Rather, instructions were given the Secretariat to update past studies and the TWG to propose a recommendation for phasing out the three substances.⁷⁷³

The TWG stated in 1983 there were "no technical or economic reasons" why the use of PCBs and PCTs in new transformers, capacitors, and heat-transmitting fluids should not be phased out in a "very short... time."⁷⁷⁴ PARCOM, however, was only able to recommend that parties "should" as soon as possible phase out PCBs and PCTs in this equipment.⁷⁷⁵ Although it also agreed to consider at its 1984 meeting setting a precise date for carrying out this recommendation⁷⁷⁶ it did not do so. Rather, a "declaration of intent" was adopted in 1984 stating the parties intend to prohibit by a formal decision in 1985 the use of PCBs and PCTs in new equipment from 1 July 1985.⁷⁷⁷ Spain and Portugal doubt whether they will be able to immediately implement such a ban and France maintained a reservation on the proposed date for entry into force of the prohibition.⁷⁷⁸ If there are no technical and economic reasons why PCBs and PCTs cannot be excluded from future production of certain equipment then PARCOM is moving unduly slow. This is particularly so since the proposal does not include existing equipment.

The Commission's work in these three areas substantiates the observation above about the leisurely pace of its work and reluctance to take strong action. This is not, however, always true, for PARCOM has taken binding decisions with clear terms on, for example, oil discharges from new refineries⁷⁷⁹ and mercury discharges from the chloralkali industry,⁷⁸⁰ and has taken positive steps with regards to discharges from the titanium dioxide industry,⁷⁸¹ as well as a number of measures relating to the control of pollution from offshore platforms.⁷⁸²

It is impossible to assess the Paris Convention's effectiveness by using information produced as a result of its monitoring duties. The problems that beset LDC and ODC data also appear here. Not all states submit reports they are obliged to, those that do may not submit anything on certain ocean areas, some contaminants are neglected, and sometimes the information in the reports is unclear.⁷⁸³ Furthermore, the three years for which data is available is "too short to draw firm

conclusions as to the effectiveness of the 'programmes and measures' being taken to eliminate pollution..."⁷⁸⁴

4. The Intractable Problem of Land-Based Marine Pollution

Although a critical view of PARCOM's work has been taken, it would be unfair to argue that it could accomplish a great deal, for land-based pollution presents "problems of enormous economic and political complexity"⁷⁸⁵ and is "doubtless one of the most intractable environmental problems of our time."⁷⁸⁶ Without understanding the reasons behind these statements a proper assessment of the treaty cannot be made.

The hesitant approach of the convention and PARCOM is due in part to economics. Although the economic effects of controlling land-based pollution are not clear, it will cost huge sums to even modestly curb this source.⁷⁸⁷ Because of the economic costs, business is able to persuade governments to respond without vigor. If a state did otherwise, it would risk the international position of its goods.⁷⁸⁸ On the other hand, application of strict national environmental laws to imported goods may raise considerable trade barriers. Orders to close or even limit the operation of a polluting factory would lead to unemployment and perhaps disruption of neighbourhoods and towns dependent on the industry. Such societal and political costs weigh heavily in places of decision. And recognising the inadequacies of marine science it is asking more than a little of governments to accept such costs and react strongly to a problem that causes an uncertain amount and degree of harm.

Furthermore, because land-based pollution is the result of all man's activity, his agricultural, domestic, and industrial practices, all of which produce a plethora of environmentally harmful substances, the problem of locating specific sources of contaminants -- the legally proximate cause -- is difficult and often impossible, particularly as a good deal of land-based pollution comes from non-point sources. But this information is necessary before controls can be imposed.

There is with land-based pollution the unique question of upstream states. Such countries may contribute significant amounts of waste to rivers that empty directly into oceans, but because they are not littoral states of a marine region they may not be inclined to join the effort to control land-based pollution. Such regulation would benefit a resource such states are unable to use. Austria attended the conference that produced the Paris Convention but has not signed the treaty, and it, along with Luxembourg, Switzerland, and Czechoslovakia

are not a party to any agreement on land-based pollution. The Sudan, Ethiopia, Uganda, and Kenya contribute contaminants to the Mediterranean Sea but have not acceded to the Athens Protocol on Land-Based Sources. Without participation of all contributors to the problem, littoral states are unlikely to address the problem with as much drive as they would if all polluters were partners in the effort, nor will the effort be fully successful.⁷⁸⁹

Although the international community has made important strides to protect the seas from ship pollution and dumping, these sources differ from land-based pollution and recognising these the lack of response to pollution from land will be better understood. The effects of land-based pollution are subtle. Rare is it that a dramatic polluting incident such as Amoco Cadiz results from land-based pollution. Nor can interest in this source be promoted by the voyages of such hapless ships as the Stella Maris and Enskeri. Crises with land-based pollution have occurred⁷⁹⁰ but the causes and, more importantly, the effects have been confined to national territory. Because the harm is "invisible"⁷⁹¹ and because of the lack of international crises, there has not been the catalyst to action as with some other sources.⁷⁹² In addition, ship pollution is clearly an international problem because ships travel all seas and enter the ports of many states. There is little question of the transfrontier effects of air pollution. Before extension of territorial seas to twelve miles and acceptance of the EEZ, most dumping took place on the high seas, lending the practice more susceptible to international control. Dumping's high visibility makes it easier to identify and control. Land-based pollution lacks these characteristics and as the activities that produce it arise from land, international regulation is less possible because states view it as a greater imposition on internal affairs and infringement upon sovereignty.

Therefore, PARCOM is faced with problems that do not confront, for example, OSCOM. Yet the complexity need not lead to the conclusion that little or nothing can be done, for certain approaches can reduce the immensity of land-based pollution and make it manageable.

5. An Approach for the Control of Land-Based Pollution

To make the problem simpler, attention must initially be directed to only wastes with the greatest potential for harm. Since the list system is widely used, ascertaining the critical substances is relatively easy. They are those on all blacklists. It must also be questioned whether land-based pollution is a global problem. In truth, a significant amount of land-based pollution requires only a national response. Some of its consequences may require a bilateral or regional response,

but then for just a single activity or substance. In sum, it is ill-advised to attempt to control all land-based pollutants in all places.⁷⁹³

How does the Paris Convention and the work of its Commission compare with this suggested approach? The convention wisely does not deal with all wastes, as does the ODC. The substances of its lists have been included on the basis of their unique potential for persistence, toxicity, and bioaccumulation (Annex A). Yet the treaty also wisely allows PARCOM to control a substance not listed in Annex A if scientific evidence establishes a serious hazard may be created by that substance (Art. 4(4)).

The treaty thus approaches the problem realistically and PARCOM's work generally follows the scheme proposed above, for its research and regulatory work is concentrated on blacklist substances. On the other hand, the Commission is considering modestly widening the JMP for the next ten years beyond mercury, cadmium, and PCBs⁷⁹⁴ and is contemplating amending the treaty to specifically include air pollution. Questions may be raised about these ostensibly encouraging developments. In its Strategy for the Future, PARCOM stressed the need to finalise work on "the following priority substances as quickly as possible: cadmium, aldrin, dieldrin, and endrin, mercury, and PCBs."⁷⁹⁵ Not only have the parties failed to develop sufficient monitoring and reporting habits on the most hazardous substances,⁷⁹⁶ but there is much substantive work to be done with these substances. Therefore, is it wise to begin new work? Although amending the treaty to gain competence over air pollution is probably good, one must wonder how much of PARCOM's limited funds and the Secretariat's limited time will be devoted to air pollution. As a Working Group has stated, if a comprehensive long term monitoring programme to assess atmospheric inputs were initiated "this would require a considerable degree of commitment in both time and expenditure..."⁷⁹⁷ PARCOM's readiness to take on new work may give it the appearance of progressive development when a good deal more might be accomplished with programmes presently underway.

6. Conclusion

Whatever work is done under the Paris Convention, it, like other international agreements, has symbolic value. Its mere existence may have contributed to the recent acceptance of the Athens Protocol on Land-Based Sources by the Mediterranean states.⁷⁹⁸ The treaty also affects national policies. For example, Belgium's environmental agency has traditionally not been a force in Belgian decisionmaking, but,

after Belgium's acceptance of the Paris Convention, this agency has been able to use the treaty as a persuasive debating tool to move the government to take a greater interest in environmental matters and control some pollution that would otherwise be unregulated.⁷⁹⁹

While the adoption of programmes and measures by PARCOM has been slow, this is not necessarily bad. Dr. Birnie states:

It has...to be remembered that there are some advantages in the slow pace of some commissions...One commentator has pointed out that the willingness of decision makers in the Oslo and London Dumping Conventions to allow matters to be thoroughly aired at a scientific and technical level and to proceed on a basis of consensus even if it takes time to achieve has avoided the 'divisive and counter-productive arguments that can result from scientific considerations being too politically inspired or overtaken too soon by political considerations.'⁸⁰⁰

These points might be considered when thinking about the few binding regulations PARCOM has issued. The use of recommendations may, because of the procedure by which they are adopted, be just as effective as binding regulations. This procedure often moves a proposal from a working group through the TWG and then to the Commission, allowing each state's scientific and political considerations to be taken fully into account and it may be fair to assume a recommendation reached through this long consensus procedure and within a group of homogeneous states will be faithfully implemented.

It was stated above that there is a general unwillingness on the part of PARCOM to adopt measures that would make a significant reduction of land-based pollution. Yet one cannot dismiss the Commission's efforts. Though the problem is difficult, foundations are being laid for more significant programmes. Reducing land-based pollution is a long process and in evaluating the Paris Convention a historical sense is needed. Relatively few years have passed since the environmental awakening and any expectation that the problems should already be solved is unreasonable.

D. The Helsinki Convention

1. Introduction

In the late 1960s dramatic statements were made about the impending death of the Baltic Sea.⁸⁰¹ Although the Baltic still lives, it does suffer acute stresses produced by its exceptional hydrographic and ecological characteristics and these may eventually destroy its ecosystem.⁸⁰² The activities of seven highly industrialized states

that surround this semi-enclosed sea exacerbate the problem.

Although Baltic states long ago recognised these problems, initially they were unable to jointly address them; international politics stood in the way. There were problems of the western states' refusal to recognise East Germany and the Soviet doctrine of the regional sea that proclaimed the Baltic closed to military units of nonlittoral states.⁸⁰³ These problems were solved in the early 1970s when all Baltic states recognised East Germany and the Soviets gradually dropped their regional sea doctrine.⁸⁰⁴ Detente, the 1972 Stockholm Conference, and the 1973 Baltic Sea Convention on Fishing and Conservation enhanced chances for an agreement protective of the Baltic environment. Several meetings in 1973 and 1974 produced a draft convention that was adopted at a 1974 diplomatic conference. The agreement is known as the Helsinki Convention.⁸⁰⁵

2. Institutional Arrangements

The Baltic Marine Environment Commission, known as the Helsinki Commission (HELCOM), is established to carry out duties similar to those of OSCOM and PARCOM (Art. 12-13). HELCOM's decisions are always recommendatory and must be unanimous.⁸⁰⁶ A small Secretariat of three professionals serves the Commission. The Helsinki Convention is unlike the regional treaties discussed thus far, for it is directed at all sources of marine pollution. Yet its Secretariat is the same size as OSPARCOM and too small for the Baltic's problems.⁸⁰⁷

Three subsidiary bodies advise HELCOM. The Scientific-Technological Committee (STC) consels especially on land-based pollution, dumping, and scientific cooperation.⁸⁰⁸ Prevention of ship pollution is the purview of the Maritime Committee⁸⁰⁹ and the Expert Group on Co-operation in Combatting Matters (EGC) addresses questions of combatting pollution caused by spillages of oil and other harmful substances.⁸¹⁰

3. Development of the Convention

Article 3 of the Helsinki Convention sets forth the broad duty to protect the Baltic's environment and is followed by provisions on each source of marine pollution, except deepsea mining, an activity that will not take place in the Baltic.

The most exemplary provision prohibits all dumping, with the exception that dredge spoil may be dumped subject to certain restrictions (Art. 9). There are extensive provisions on combatting spills of harmful substances (Art. 11, Annex VI). Though all "appropriate measures" are to be taken to prevent pollution from seabed mining (Art.

10) the little exploitation of the Baltic's seabed is mostly of sand and gravel.⁸¹¹ There are the usual duties of scientific cooperation and monitoring (Art. 16).

The treaty considers air pollution as land-based pollution and the list system has been adopted to address land-based pollution. The parties, however, are ambiguously required to "counteract" blacklist substances (Art. 5) and the number of substances on this list is "exceptionally limited" in comparison with other agreements.⁸¹² All "appropriate measures" to strictly limit pollution by gray list substances are to be taken in accordance with Annex II (Art. 6(2)). Because the main dangers to the Baltic are deoxygenization and eutrophication,⁸¹³ these problems are specifically mentioned and wastes causing them are to be "controlled and minimized" (Art. 6(6)). Annex III contains a general requirement that municipal sewage, industrial wastes, and certain water discharges are to be treated to prevent deoxygenization and eutrophication. It is to be noted that internal waters are excluded from the convention area. Thus the area through which all land-based pollution flows is not part of the regime, although the parties do "undertake" to ensure convention purposes will be obtained in these waters (Art. 4(3)). Protection of coastal waters thus depends entirely upon a state's willingness to act.

Most of the provisions on the various sources are general, except those on ship pollution, for which the parties are to take measures set out in Annex IV, which is long and involved (Art. 7). Prof. Boczek discusses this disproportionate attention to ship pollution.

This drafting feature is due to the fact that only a few months prior to the adoption of the Baltic Convention the problem had been regulated at length by... [MARPOL]. Furthermore, that Convention had established more rigorous rules for ships operating in 'special areas'... Since the Baltic nations had achieved their objective of recognizing the Baltic as one of these special areas, they decided to incorporate the bulk of... [MARPOL] rules... into the regional convention. The assumption was that the Baltic Convention would enter into effect sooner than... [MARPOL].⁸¹⁴

Development of the Helsinki Convention by HELCOM has been disappointing. Even before HELCOM formally began work in 1980 observers probably became pessimistic about its chances for success as the 1970s went by without the treaty entering into force. In 1976 one writer remarked that the treaty, adopted in 1974, was expected to enter into force in 1977.⁸¹⁵ Not until May of 1980, however, was this state reached.

More than six years is an unusually long time to wait for a regional marine environment protection treaty to be put into effect; particularly since only seven ratifications were needed to reach this position, it does not generally contain rigorous provisions, and it addresses a uniquely common problem of some magnitude.

Whereas the parties to the LDC, ODC, and Paris Convention allow their Secretariats to publish helpful annual reports, the Baltic states have not. The 1980 to 1984 annual reports of HELCOM are available but they only present an overview of the subjects discussed by HELCOM and its subsidiary bodies and often in skeletal form. In addition, there is never, unlike reports of other commissions, a mention of disagreement. The annual reports do, however, contain the texts of all recommendations adopted by HELCOM and these, supplemented with statements by each party and collected in a document commemorating the treaty's tenth anniversary, provide a means to assess the treaty's effectiveness.

Although the Helsinki Convention did not come into force until 1980, the parties established an Interim Commission in 1974 to begin the cooperation called for by the treaty.⁸¹⁶ HELCOM began work in 1980 and has adopted 37 recommendations. Of these, eighteen concern ship pollution, eleven combatting spillages, five land-based pollution, and the remaining three are of a miscellaneous character. Consequently, not only does the treaty text give disproportionate attention to ship pollution, HELCOM has addressed 29 of its 37 recommendations to this source.

Some of the ship pollution recommendations are insignificant. For example, two recommend that certain international conventions be signed and ratified by the Baltic states and several deal with minor procedural matters, such as the proper form to use in alleging a part's reception facilities are inadequate. The recommendations on ship pollution are often broadly formulated and many simply request Baltic states to implement action previously taken by IMO with regard to IMO conventions. Though such recommendations may result in IMO's work being more quickly accepted by Baltic countries, the practice does illustrate a lack of initiative by HELCOM. Because IMO's work is directed at the development of provisions in global treaties, perhaps Baltic states should do more to control ship pollution than merely reassert this work. The Baltic Sea is semi-enclosed, in uncertain health, and distinctly unlike most ocean areas to which IMO's work applies. While one would hope the ship pollution recommendations adopted by HELCOM that are not related to IMO's work would develop general convention provisions, this is not always so.

HELCOM RecommendationsShip Pollution

<u>Reco. Number</u>	<u>IMO Related</u>	<u>Subject Matter</u>
1/1		reception facilities
1/2	X	pollution control equipment
1/3	X	pollution control equipment
1/4	X	pollution control equipment
1/6	X	adoption of int'l. treaties
1/10		ship position reporting system
1/11	X	reception facilities
1/12	X	discharge connections
1/13	X	update Int'l. Maritime Dangerous Goods Code
1/14	X	amend Helsinki Con. to conform with MARPOL amendment
1/15		date of application of two provisions
2/1		date of application of Reg. 5, Annex IV
2/2	X	adoption of int'l. treaties
2/3	X	pollution control equipment
3/4	X	format for reporting inadequate reception facilities
4/2	X	oil pollution prevention certi- ficate and oil record book
5/4	X	date of application of Reg. 4, Annex IV

Combatting Spillages

<u>Reco. Number</u>	<u>Subject Matter</u>
1/7	develop combatting abilities (oil)
1/8	combatting methods (oil)
1/9	international cooperation
2/4	procedures to inform of an incident
2/5	organisational structure of joint combatting operations
2/6	radio communication during joint combatting operations
2/7	agreements on response regions
3/5	adjusting costs of joint action

4/3	develop combatting abilities (substances other than oil)
4/4	guidelines for the conduct of joint combatting operations
5/3	guidelines for calculating costs of joint action

Land-Based

Reco. Number

Subject Matter

3/1	limit use and discharge of PCBs
3/2	eliminate use of DDT
4/1	amend Annex I to include PCTs
5/1	limit oil in stormwater system
5/2	restrict discharges from oil refineries

Miscellaneous

Reco. Number

Subject Matter

2/8	states to consider a pollution study when accepting pollution abatement measures
3/3	conservation of seals
5/A	plans for future activities

Recommendation 1/1, for example, merely suggests the parties take "appropriate steps" to ensure reception facilities are fully used⁸¹⁷ and reminds parties that cost and time delays are disincentives for using reception facilities.⁸¹⁸

Recommendations concerning combatting spillages include suggestions on what clean up methods to use, exhortations to further develop the ability to respond to an incident, and suggestions to facilitate joint responses. HELCOM's ECG has established a scheme for the exchange of information on oil combatting operations and equipment, devised a communication plan for reports on significant spillages, and provides a forum for the discussion of national contingency plans.⁸¹⁹ HELCOM's recommendations, provided they have been implemented, together with work by the ECG, have probably well-prepared Baltic states to combat most pollution incidents.

The five recommendations related to land-based pollution are not too significant. For example, one, adopted in 1981, recommends the use and production of DDT be abandoned,⁸²⁰ but prior to this Baltic States had already stopped such practices.⁸²¹ Recommendation 5/1 asks the parties to ensure effective water control measures are applied to a stormwater system receiving oil wastes and Recommendation 5/2 suggests controls on oil waste and seepage from oil refineries, with stricter measures called for on new refineries than on existing ones.⁸²² Neither of these recommendations is directed at a pollutant on the convention's blacklist.

Generally, HELCOM has done little to develop the convention through recommendations. In addition, numerous specific duties placed upon HELCOM and the parties by the treaty have remained unfulfilled. Article 6(2) says the parties are to strictly limit pollution by gray-list substances and to this end they are to adopt "specific programmes, guidelines, standards, or regulations concerning discharges, environmental quality, and products containing such substances and materials and their use." Few of such measures have been adopted. Annex II, to which Article 6 refers, says mercury and cadmium are "for urgent consideration" but no recommendations have been adopted with regards to these substances.⁸²³ Article 6(3) says Annex II substances shall not be introduced in "significant quantities" but this ambiguous phrase has not been clarified.⁸²⁴ Article 6(5) requires states to endeavour to adopt common criteria for issuing permits for discharges; but they have failed to.⁸²⁵

Other articles of the treaty remaining unsatisfied, include,

Article 7(2) which obliges parties to develop and apply uniform requirements for the capacity and location of reception facilities; Regulation 6 of Annex IV requiring the application of suitable uniform rules for the carriage of harmful substances in packaged forms or in freight containers, portable tanks or road and rail tank wagons; Regulation 7 of Annex VI on the duty to "as soon as possible" agree bilaterally or multilaterally on those Baltic Sea regions in which they will take action for combatting or salvage activities;⁸²⁶ and Article 17, requiring the parties to "as soon as possible" adopt rules on responsibility for damage resulting from actions in contravention of the treaty. The lack of response to some of these obligations also marks HELCOM's failure to fulfill its general duty to define pollution control criteria and objectives (Art. 13(d)).

HELCOM has been more successful in seeing to it that the duties of scientific cooperation, monitoring, and assessment have been carried out (Art. 16). A Baltic Monitoring Programme (BMP) was started on a routine basis in 1979.⁸²⁷ Seminars and workshops have been held, guidelines for sampling procedures were adopted, intercalibration exercises operated, and in 1980 a lengthy report on the assessment of the effect of pollution on the Baltic was produced. An updated study is expected shortly. The first stages of the BMP ended in 1983⁸²⁸ and the next year guidelines for the second stage were agreed to.⁸²⁹ Atmospheric inputs of pollutants is being studied⁸³⁰ and numerous other scientific work has been undertaken.⁸³¹

4. Conclusion

Because much of the Helsinki Convention is broadly worded, the work of HELCOM is of fundamental importance, but its performance has been unsatisfactory. In 1978 Prof. Boczek stated: "Whether the regional system of the Baltic states will be able to carry out [the convention's] objectives in the immediate future is doubtful..."⁸³² This review of HELCOM's work has proved Boczek prescient. Its recommendations on ship pollution are often mild and often restate IMO pronouncements. The marked imbalance in the treaty between ship and land-based pollution has not been corrected by HELCOM's work. The recommendations on land-based pollution are few and, overall, not of significance.

Are HELCOM's recommendations adhered to? Evidence is lacking but there is an instance of a recommendation being largely ignored and this may portend a general failure by Baltic states to respect recommendations. The instance involves the Baltic Position Reporting System

(BAREP), instituted in July of 1981. BAREP asks that ships of a certain size carrying harmful substances transmit reports to position reporting centres when inbound or outbound from the Baltic or when navigating in it.⁸³³ Baltic states have given BAREP little support.⁸³⁴ If the states cannot be bothered with this noncontroversial and inexpensive activity perhaps they have not adhered to others. On the other hand, it would appear from some of the national statements made in commemoration of the convention's tenth anniversary that recommendations are generally followed.⁸³⁵

Has the health of the Baltic Sea improved since adoption of the Helsinki Convention? While some statements have been made about improvements,⁸³⁶ a respected student of the subject has doubts. Dr. Kullenberg says that, while the treaty has brought about machinery to observe and assess the Baltic, one cannot infer from this that its health has improved.⁸³⁷ He adds:

It probably has not, except possibly on a very local basis. We know that DDT and PCB contents have decreased in biota in large parts of the Baltic, but this is probably due to national legislation before the Convention.

An important problem of the Baltic is the large nutrient and organic matter inputs from runoff. These have not decreased in later years, rather increased....

...The oxygen content of the deep and bottom waters have not improved over the last years. It is not possible to say if inputs of various contaminants have changed -- the data are not complete enough for that.⁸³⁸

The national statements in the anniversary document provide little information to answer the question about the Baltic's health. Only Denmark offered some guidance. While it notes that the levels of harmful substances and ship discharges and ship wrecks have decreased,⁸³⁹ it adds that increasing levels of many heavy metals in the Baltic sediment have been found, that there is a problem of new contaminants in biota which might indicate a negative trend, and that increasing eutrophication is reported in several areas.⁸⁴⁰ A recent conference on the Baltic Sea reports that concentrations of nitrogen and phosphorus compounds are increasing and inputs from these substances from land and air are on the rise.⁸⁴¹ But, like other regional treaties surveyed, "it maybe a bit early to assess the influence of the Convention."⁸⁴² A new study of the Baltic is underway and will be issued no later than 1986. This will provide clearer answers to the treaty's effectiveness.

Despite the Helsinki Convention's deficiencies, its existence is surely a good thing. Some of the national statements give accounts

of action taken to control marine pollution.⁸⁴³ Such improvements in environmental protection may not have come about as soon, or at all, without the impetus of the treaty. In addition, it has stimulated conventions in other marine regions and partially served as a model for UNEP's Regional Seas Programme.⁸⁴⁴ For Baltic states, the Helsinki Convention is valuable because it provides them with a viable legal and institutional framework to control marine pollution, should they decide to use it as fully as they might.

E. The Mediterranean Action Plan and the Barcelona Convention

1. Introduction

The precarious health of the Mediterranean Sea was recognised in the 1960s. Events leading to the Mediterranean's states' adoption of the Mediterranean Action Plan (MAP) to protect their sea and develop its coastal areas have been well-described elsewhere.^{844a} Sixteen of the eighteen Mediterranean states attended the 1975 conference that adopted MAP.⁸⁴⁵ The Plan has three main parts: legal, concerning adoption of a framework convention and specific protocols; assessment, concerning evaluation of the causes, magnitude, and consequences of environmental problems; and management, concerning environmentally sound management of natural resources.

2. Institutional Arrangements

Because of its several parts -- that themselves include subsections calling for administering bodies -- the institutional arrangements for implementing MAP are complex.

UNEP was the initial and remains the general administrator of MAP, guiding its overall development and administration, including providing the Secretariat for the legal instruments adopted pursuant to the Plan. Since 1982 this work is largely carried out at the MAP Co-ordinating Unit in Athens.⁸⁴⁶ The Unit's work for the legal instruments is similar to the Secretariat duties of other regional treaty Commissions.

Under the legal component of MAP a framework convention and protocols on dumping, land-based sources, and cooperation in cases of pollution emergencies are in force. A protocol on specially protected areas is yet to enter into force. Parties to the framework convention and the protocols in force hold joint Ordinary Meetings every two years to review implementation and take action to achieve treaty objectives. These meetings are also used to review the management and assessment components of MAP. The Regional Oil Combating Centre (ROCC) has been

established in Malta to implement the protocol on cooperation in emergencies⁸⁴⁷ and a Regional Activity Centre for Specially Protected Areas has been set up in Tunis as a means to achieve this protocol's objectives.⁸⁴⁸ Thus, under MAP's legal component there are several institutions, but the two other parts also have institutional arrangements.

The assessment component relies on several bodies. There is a Working Group for Science and Technological Cooperation that is to meet at least once a year to "advise UNEP on technical and policy matters related to the programme and prepare recommendations for submission through UNEP to the meetings of the Contracting Parties."⁸⁴⁹ Actual scientific work is carried out by a network of national institutions and Greece has established a Mediterranean Network and Environmental Information Centre that all basin states may use.⁸⁵⁰ The states may also use the IAEA laboratory in Monaco to maintain their analytical equipment and conduct intercalibration exercises.⁸⁵¹

The management component of MAP includes the Blue Plan and the Priority Actions Programme. A unit responsible for technical implementation of the Blue Plan is in France and Yugoslavia hosts an activity centre for the latter programme.⁸⁵²

3. Implementation of the Mediterranean Action Plan's Legal Component: The Barcelona Convention

The legal component of MAP has been extensively developed. In 1976 the parties adopted the Barcelona Convention to protect the Mediterranean from pollution.⁸⁵³ The Convention provides a framework for developing MAP's legal component. It requires all appropriate measures be taken to control marine pollution and repeats this duty for dumping, land-based sources (broadly defined to include air pollution), and offshore exploration and exploitation (Art. 4(1), 5, 7, 8). Article 9 requires cooperation in dealing with pollution in emergencies and Article 6 requires conformity with international law to prevent ship pollution.

Protocols on dumping and on cooperation in cases of a pollution emergency were quickly adopted and came into force in 1978 along with the Barcelona Convention.⁸⁵⁴ The Mediterranean states continued to develop law in 1981 by adopting a Protocol on Land-Based Sources and in 1982 one on Specially Protected Areas.⁸⁵⁵ The former entered into force in 1983⁸⁵⁶ but the latter has yet to reach this state.⁸⁵⁷ Regarding ship pollution, the parties rely on adherence to MARPOL 73/78 to regulate this source of Mediterranean pollution.⁸⁵⁸ Though several meetings were held to discuss regulation of offshore exploration and

exploitation,⁸⁵⁹ a proposal at the 1983 meeting to do so was rejected.⁸⁶⁰

Besides calling on the parties to control marine pollution, the Barcelona Convention also requires pollution monitoring and research and the adoption of procedures to determine liability and compensation for damage resulting from marine pollution (Art. 10-12). The scientific duties are carried out in the assessment component of MAP, discussed below. As for the liability and compensation issue little has been accomplished, although it has been much discussed and studied.⁸⁶¹ Creating a compensation Fund will be discussed again at the September 1985 Ordinary Meeting.⁸⁶²

The rest of this review of the legal component's development will examine the protocols on dumping, land-based sources, and cooperation on pollution emergencies.

a. The Dumping Protocol

Provisions of the Dumping Protocol to the Barcelona Convention are remarkably similar to those of the London and Oslo Dumping Conventions. Thus, the Protocol uses the black and white list system. Some advances, however, have been made. The definition of "ship" is broad, encompassing offshore platforms (Art. 3(1)) and both Annex I and II include more substances than in the LDC and ODC. On the other hand, some of the same obscure words in the latter treaties reappear, such as "non-toxic," "rapidly converted," and "trace contaminant" (Annex I).

Though the Protocol has been in force since 1978 the parties have taken few steps to improve it. In 1981 they recommended prohibition of incineration at sea and elimination of all radioactive waste dumping until the IAEA definition of the de minimis level of radioactivity for wastes has been accepted by all Mediterranean states.⁸⁶³ Along with these positive moves, however, there are problems. Some states have not even appointed a national authority to administer the agreement,⁸⁶⁴ the basic step for implementation. The duty to submit reports is not always complied with and when it is the reports are sometimes incomplete.⁸⁶⁵ It would also appear that the relatively simple matter of agreeing on a standard reporting format has yet to be done.⁸⁶⁶ Defining ambiguous terms has not been undertaken. The Protocol's "effective application will only be optimized when the research and monitoring component of MAP start to produce concrete and overall results."⁸⁶⁷ Something it has yet to do.

b. The Land-Based Protocol

Provisions of the Mediterranean Land-Based Protocol are much like the Paris Convention's. The Protocol applies not only to open

ocean areas but also to territorial waters (Art. 3). Importantly, the agreement applies to offshore platforms, and the regulation of air pollution is to be elaborated in a future annex (Art. 4). The list system reappears and for Annex I substances pollution (not discharges) is to be eliminated and for Annex II substances pollution is only to be limited (Art. 5(1), 6(1)). To reach these goals the parties are to adopt "programmes and measures" (Art. 5(2), 6(2)). Unlike the Paris Convention, the Mediterranean Protocol goes on to name several particular areas where guidelines and standards are to be adopted (Art. 7(1)). In formulating regulations states are to take account of local ecological characteristics, the level of existing pollution, and their economic capability (Art. 7(2)(3)). Such qualifications were necessary to gain acceptance of the Protocol by the Mediterranean's "southern rim" states that are beginning industrial development.⁸⁶⁸ As with the Dumping Protocol, monitoring and research results and reporting on measures taken to control land-based pollution are required (Art. 8-13).

The essence of the Land-Based Protocol is the adoption of programmes and measures to control pollution from land. Since the Protocol has been in force only a few years it is not surprising little has been done to develop it. In fact, it even took several years to convene a meeting of experts on the Protocol.⁸⁶⁹ The experts finally met in 1984 and reviewed measures concerning environmental quality criteria for recreational waters, shellfish for human consumption, shellfish growing waters, and mercury in seafood.⁸⁷⁰ At the 1984 Extraordinary Meeting of the parties these measures were recommended, not required, for implementation⁸⁷¹ and mark the first step in developing the Land-Based Protocol, though it remains to be seen if they are implemented.

Though controlling land-based pollution is highly complex, the difficulty in even convening a meeting does not instill confidence the states will quickly develop the Protocol to control the most serious source of marine pollution. Even if the parties desire to control this source, "[f]or the foreseeable future, it is unlikely that many...states will have the technical ability and financial means to comply with the protocol provisions."⁸⁷²

c. The Protocol on Cooperation in Emergencies

Article 1 of the Protocol requires:

[Cooperation] in taking the necessary measures in cases of grave and imminent danger to the marine environment, the cost of related interests of one or more of the Parties due to the presence

of massive quantities of oil or other harmful substances resulting from accidental causes or an accumulation of small discharges...

To contend with emergencies, plans are to be developed and means of combating pollution are to be maintained (Art. 3). Monitoring must be done to give precise information on a situation referred to in Article 1 (Art. 4) and the parties are to disseminate information on the national authority responsible for combating pollution, on their research, and means of combating pollution (Art. 6). They also are to inform one another of Article 1 situations and any action taken in response (Art. 7-9).

To facilitate implementation of these duties ROCC was established when the Protocol was adopted, 1976.⁸⁷³ IMO provides ROCC with administrative and technical support.⁸⁷⁴ ROCC's basic objective is to facilitate cooperation among the states to combat pollution emergencies and help develop their anti-pollution capabilities.⁸⁷⁵ Towards these purposes ROCC has carried out the following activities: collection and dissemination of information relating to marine pollution;⁸⁷⁶ development of communication systems;⁸⁷⁷ promotion of technological cooperation and training programmes for combating oil pollution;⁸⁷⁸ and assistance in the development of national, sectoral, and sub-regional contingency plans.⁸⁷⁹ Other activities are planned⁸⁸⁰ and ROCC has provided technical assistance in a number of pollution incidents.⁸⁸¹ Such assistance can only be given if requested for the states do not wish ROCC to undertake an operational role.⁸⁸² Because the parties have implemented the Protocol on cooperation in emergencies, ROCC has succeeded in carrying out its purposes.

4. Implementation of the Mediterranean Action Plan's Assessment Component

MAP's assessment component, that is, the evaluation of the causes, magnitude, and consequences of environmental problems, is implemented through the MED POL programme, meaning Mediterranean Pollution. Science is fundamentally important for the development of the Mediterranean legal regime. Without solid scientific work MAP's legal component will stagnate. Science is to be used to evaluate the effectiveness of the Barcelona Convention and its protocols and assist in their revision.

MED POL's Phase I began in 1975 with seven projects organised by UNEP and the specialized agencies and approved by the Mediterranean states.⁸⁸³ Technical meetings were then held to develop details for the projects and for each a network of national research centres was organised through the agencies and under UNEP's overall guidance.⁸⁸⁴ Actively participating in one or more of Phase I projects were 83 research centres

in sixteen states and the EEC.⁸⁸⁵

Phase I had many achievements. One of the most important was enhancement of scientific communication and the capabilities of some Mediterranean states.⁸⁸⁶ To ensure comparability of results, methodology was agreed to in a number of areas.⁸⁸⁷ Substantive results include a wealth of knowledge gained from the projects,⁸⁸⁸ most of which were completed as planned. Phase I, which ended in 1981, did, however, encounter problems. Geographic distribution of the monitoring work was unbalanced.⁸⁸⁹ Some research centres were reluctant to reorient their programmes and thus the overall plan had to be tailored to fit activities of the institutions.⁸⁹⁰ Consequently, research results resemble a mosaic rather than an integrated scheme.⁸⁹¹ Despite agreements to ensure data comparability, this was not fully attained.⁸⁹² Even so, "considerable progress" was made in understanding Mediterranean pollution⁸⁹³ and the results provided a basis for national research activities and an international cooperative programme for continuous monitoring of the Mediterranean as envisaged by the Barcelona Convention.⁸⁹⁴

MED POL Phase II was adopted in 1981 with the general objective of furthering the purposes of the Barcelona Convention and its protocols.⁸⁹⁵ Some specific goals indicate the significance of MAP's assessment component for realizing its legal part, these goals being providing data required for the legal agreements' implementation, evaluating their effectiveness, and information that may lead to their revision and the formulation of additional protocols.⁸⁹⁶

The programme for Phase II contains a long list of specific activities⁸⁹⁷ that are entirely up to the states to implement,⁸⁹⁸ though Phase II still relies on overall coordination by the Athens Coordinating Unit and on day to day coordinating by specialized agencies.⁸⁹⁹

Although operative in 1982,⁹⁰⁰ MED POL II is not yet off the ground. Numerous problems have been encountered.⁹⁰¹ As a general criticism of the implementation, at the 1984 meeting UNEP stated:

[T]he simple matter of reporting available information to the Co-ordinating Unit is either not carried out properly, or not done at all. When the agreed information is provided by you... only then will your small secretariat be in a position to provide you with a comprehensive view of what is happening in the Mediterranean.⁹⁰²

5. Implementation of the Mediterranean Action Plan's Management Component

The management component, which seeks reconciliation of development with the environment of the Mediterranean by bringing "to bear upon national decisionmakers an awareness of long-term development trends and

a realization of their interplay with the environment,"⁹⁰³ is beyond the scope of the thesis. Nonetheless, it may be noted that, overall, Mediterranean states have shown little interest in this aspect of MAP.⁹⁰⁴

6. Conclusion

The Mediterranean states recognised it was neither possible to agree on a comprehensive convention with specific regulations for all sources nor on separate treaties for all sources. Therefore, they adopted a framework convention and two protocols. The Barcelona Convention provided a weak legal obligation to combat all pollution sources and an impetus to adopt protocols. The protocols on dumping and cooperation in emergencies, agreed to along with the Convention, were the only two feasible for adoption in 1976, and their adoption marked a favorable beginning for the Barcelona Convention. Later protocols on land-based sources and specially protected areas were adopted and the far more important land-based protocol entered into force in 1983. Sources not independently covered are air and ship pollution and pollution from off-shore and deepsea activities. Yet these gaps are not as wide as they appear. The land-based protocol considers air pollution as a land-based source and though the duty under the protocol to regulate air pollution by an annex has not been satisfied, two points should be kept in mind. Oceans are not significantly polluted through the air and states on the northern rim of the Mediterranean are parties to the ECE Convention on Long-Range Transboundary Air Pollution. It is these northern states that pollute the air far more than other Mediterranean states. There are provisions in the dumping and land-based protocols that reach off-shore activities. Furthermore, these operations are not widely undertaken in the Mediterranean. Nor is this sea thought to hold the minerals sought by deepsea mining. Regarding ship pollution, the states rely upon MARPOL 73/78 for regulation.

The Mediterranean states have well-developed the Barcelona Convention. Yet just looking for what protocols have been adopted under the treaty is superficial. One must also assess their content and implementation. In addition, the treaty and protocols contain provisions on monitoring and research and because of the importance of this element for development of a legal regime it needs to be reviewed as well. When these points are examined the assessment of the legal regime is less favorable.

The Protocol on Cooperation in Emergencies, for example, while commendably developed, is hardly a cornerstone of the regime. It is

reactive. It seeks to combat pollution incidents but does nothing to prevent them. Provisions of the dumping and land-based protocols are markedly similar to the LDC and ODC and the Paris Convention, and thus have strengths and weaknesses similar to these agreements. Where these three treaties differ from the Mediterranean protocols is in their development. Here, Mediterranean states seem a bit indifferent. They have done little with the dumping agreement. By contrast, parties to the ODC are actively engaged in developing their agreement by, for example, working to define terms, reporting their dumping practices, reviewing and criticizing dumping practices, and developing a scientific programme. So too with the Mediterranean land-based protocol vis-a-vis the Paris Convention. Although it is to be noted that the Mediterranean agreement has not been in force long.

What is crucial to full development of the Barcelona Convention and the protocols is implementation of MAP's assessment component, particularly for the land-based protocol. It needs science to formulate sound programmes and measures and to assess their effectiveness. The MED POL programme began successfully with Phase I. Phase II, however, is encountering problems. These are mostly financial⁹⁰⁵ but a strain of disinterest is also discernable from some states' failure to designate national authorities to cooperate in the programme. Such disinterest is also manifested in the management component.

At the 1984 meeting representatives of Greece and UNEP both spoke of their doubts about the Mediterranean states' willingness to protect their common sea.⁹⁰⁶ This view, it is submitted, is accurate.

It appears MAP has completed its first stage and is beginning a second. The first was largely successful. The Barcelona Convention was adopted and protocols covering the source of 80 to 90% of pollution are now in force. Scientific programmes were fruitful. But now, in the second stage, the real work must begin. Protocols must be implemented and developed and supplemented with science.

F. The ECE Convention on Long-Range Transboundary Air Pollution

1. Introduction

Air pollution was seen as a problem in need of regulation during the early years of the environmental movement. But the long-range transboundary transport of atmospheric pollutants was not immediately viewed as in need of international attention. Only after research began to indicate that environmental harm in one state was due in part to emissions in others were calls for international regulation heard. In the

forefront of this movement were the Scandinavian countries. They saw their natural heritage damaged by activities beyond their jurisdiction. Also, Canada sought a commitment by the United States to decrease emissions because of damage to Canadian resources. In the late 1970s, Switzerland, West Germany, and other states, also recognised that damage to their forests was caused in part by emissions from other countries.⁹⁰⁷

Prompted by a determined campaign by the Scandinavian countries to make other states more aware of international air pollution,⁹⁰⁸ as well as by the Final Act of the 1975 Helsinki Conference on Security and Cooperation in Europe that advocated increased cooperation to solve environmental problems,⁹⁰⁹ the ECE sponsored a conference in 1979 that adopted the Convention on Long-Range Transboundary Air Pollution (ECE Convention).⁹¹⁰ It has thirty ratifications and entered into force 16 March 1983.

2. Institutional Arrangements

An Executive Body composed of all parties administers the treaty (Art. 10). Meeting annually, it reviews implementation and may establish working groups to consider matters of treaty implementation and development (Art. 10(2)). These groups may prepare appropriate studies and submit recommendations to the Executive Body (Art. 10(2)(b)). Secretariat duties are handled by the ECE (Art. 11), even though the ECE receives no additional funds to carry out its duties.⁹¹¹ The European Monitoring and Evaluation Programme (EMEP), a UNEP programme, is involved with technical implementation (Art. 10(3)).

3. Development of the Convention

The treaty sets no numerical goals, limits, timetables, abatement measures, or enforcement mechanisms. Each state is free to decide for itself how to reduce its emissions. The parties merely "endeavour to limit and, as far as possible, gradually reduce and prevent air pollution..." (Art. 2). They agree to develop "control measures compatible with balanced development, in particular by using the best available technology which is economically feasible..." (Art. 6). These weak duties have led to criticisms that the treaty is toothless.⁹¹² Clear duties, however, include sharing information and collaborative research (Art. 7-9). Thus, like other environmental agreements, only perhaps more so, "much will depend on the effectiveness with which governments translate the vague terms of the Convention into firm commitments."⁹¹⁴

The Executive Body held its first meeting in 1983 and was faced with a dispute that existed at the 1979 conference: the demand by some

states that emissions be reduced by a particular amount within a certain time, and the resistance of other states that questioned the need of such a step. The treaty itself rejected the former position and, at its first meeting, the Executive Body did so as well, even if the victory this time was less convincing. The eventual consensus is expressed in a Decision on Strategies and Policies. In it, the Executive Body agrees on the "need" for parties to further develop emission reduction programmes by 1985 and decrease sulphur emissions by 1993-1995.⁹¹⁴ No mention is made of the 30% reduction called for during the session. The "artfully worded"⁹¹⁵ Decision contains no specific emission reduction requirements.

Significant progress, however, was made at the 1984 and 1985 Executive Body sessions. Most importantly, in 1985 a Protocol was adopted requiring its signatories to reduce sulphur emissions or their transboundary fluxes by at least 30% by 1993-1995, using 1980 levels as the basis for calculating reductions.⁹¹⁶ The Protocol already has 21 signatories.⁹¹⁷ While the parties initially focused all work on sulphur emissions, in 1985 nitrogen oxide emissions were included as a part of the treaty's scientific work,⁹¹⁸ the first step to an agreement on their control.⁹¹⁹ Other pollutants may also gradually be brought within the treaty.⁹²⁰

Problems existed with financing the EMEP,⁹²¹ the monitoring part of the treaty, but these were clarified by adoption of a Protocol in 1984.⁹²² Though the agreement is not in force, 22 states have signed it⁹²³ and nine have, or are about to ratify it.⁹²⁴

Parties to the ECE Convention have also embarked on an ambitious work plan to implement various treaty provisions. The plan comprises three broad areas.

a. Strategies and Policies. Parties are to annually submit information on their national strategies for reducing emissions.⁹²⁵ Each Executive Body session will review these reports and every fourth year, beginning in 1986, a major review will be undertaken. This unique mechanism to encourage treaty development may promote a decrease in emissions.

b. EMEP. The objective of the EMEP programme is to determine the flows of air pollution across European boundaries and the deposition of air pollutants.⁹²⁶ The data will provide a basis for abatement strategies.⁹²⁷ Presently, 88 measuring stations in 23 countries are operating.⁹²⁸

c. Technical Cooperation. A good deal of scientific coopera-

tion goes on under the auspices of the ECE Convention, thereby implementing its provisions on research, consultation, and the sharing of information. For example, technical studies of air pollution's effect on aquatic ecosystems have been made.⁹²⁹ Some of the many other cooperative programmes include an analysis of the cost-effectiveness of emissions control mechanisms and of costs and benefits of sulphur emissions control, and numerous conferences on a wide range of subjects.⁹³⁰ Although the professionalism of the scientific work is sometimes questioned,⁹³¹ it appears the treaty's scientific duties are being fulfilled.

4. Conclusion

While the ECE Convention is weakly worded and problems exist with the sometimes obstructive attitudes of the United States⁹³² and Britain,⁹³³ with the uncertainty of the East European states' willingness to fully participate,⁹³⁴ and with an inadequately financed Secretariat, positive steps have been taken. Whereas the work between the time the treaty was adopted and entered into force focused on sulphur emissions, nitrogen oxides now also receive attention. The Protocol to secure the financial future of the EMEP was quickly agreed to. Technical work has improved international scientific efforts⁹³⁵ and established important avenues of international cooperation.⁹³⁶ The Executive Body provides a central structure to assemble information on national emissions, pollution control, and energy policies.⁹³⁷ The agreement to reduce sulphur emissions by 30% by 1993-1995 is an important advance, particularly since it is estimated that more than two-thirds of all global air pollution is generated in the ECE region,⁹³⁸ making this regional treaty something more than is usually understood by this term.

The Executive Body, composed of nearly three dozen heterogeneous states and dealing with a problem entwined with economic and social considerations, cannot have been expected to accomplish a great deal within its first three sessions, particularly when it has to work with a treaty lacking vigour. In fact, the Executive Body has well-developed the treaty, an agreement that provides international recognition of the acid rain problem and sets up a means to lessen its harmful consequences. The mere presence of the ECE Convention may have spurred the EEC to enact in 1980 a sulphur dioxide directive that had been long delayed and may have accelerated negotiations between the United States and Canada on their acid rain dispute, negotiations that resulted in an agreement about nine months after the ECE Convention was adopted.⁹³⁹

G. Conclusion

Europe has addressed marine pollution with a variety of legal methods. The ECE Convention is directed at only air pollution and initially at only sulphur dioxide emissions. Northeast Atlantic states are proceeding in an ad hoc fashion with separate treaties on dumping and land-based sources. Baltic states rejected separate treaties for each source and adopted a comprehensive treaty that seeks to regulate all sources. Mediterranean states, on the other hand, adopted a framework convention and have added three protocols to it.

The piecemeal approach has worked the best. The regime of the Northeast Atlantic is superior to that in the Baltic and Mediterranean and the ECE Convention has been better developed than have the Helsinki and Barcelona Conventions. These latter two treaties represent the comprehensive approach. It is doubtful the different progress under these three approaches means marine pollution may be better controlled if a region proceeds step by step, adopting and developing distinct conventions for each pollution source. Northeast Atlantic states are far more homogeneous than Baltic and Mediterranean states. Also, the Mediterranean region includes less developed countries. It is more likely factors such as disparate stages of development and political antagonisms account for the different success of the approaches, rather than their form. An opposing argument, however, may be founded on the possibility that Baltic and Mediterranean states have not yet matched the Northeast Atlantic states because they have attempted with their comprehensive approach to do too much too quickly. Perhaps attempting to control all the sources at once is overwhelming and spreads financial and human resources too thinly to deal with even one source adequately, at least in the short term. The points made here are also relevant for the coordination issue, that is, it may be that the region with the most order and legal and administrative tidiness is not necessarily the most successful in combating marine pollution. Factors other than smooth and full coordination may be more important.

What has been learned in this chapter is that action after ratification of a treaty is the salient point for determining its value. To evaluate a marine pollution convention by looking only at its terms is superficial. For example, the ECE Convention contains vague and weak obligations but has been admirably developed. The comprehensive Helsinki Convention, on the other hand, despite its provisions containing clear, although general, duties to control all marine pollution

sources has stagnated.

Since it is the development of a treaty after ratification that is the essence, the organisation responsible for implementation is fundamental. Thus, the institutional arrangements established by the treaties were described and found to bear marked similarity with one another. The work undertaken by them make it clear IGOs, whatever form they take, are the stewards in the development of the international law of the sea.

Because provisions in the European agreements are similar one would hope a number of conclusions and trends could be drawn from their collective analysis. This is, however, difficult, for as stated, it is not treaty terms that are important. These are mostly general. It is necessary to analyze implementation and development to determine conclusions and trends. But the development of each agreement varies too widely for the reaching of many conclusions.

Overall, the development of the five treaties has been mixed, if not disappointing. While the Barcelona Convention has been well developed, little has been done with its more important protocols. The Helsinki Convention has not been developed. Progress under the Paris and Oslo Conventions has been only fair. Though the ECE Convention has started successfully, its main objective is to protect forests and lakes from acid rain, not the seas, and air pollution carries only little pollution to the oceans. The mere adoption, however, of these agreements is noteworthy. They have doubtlessly promoted greater public awareness of marine pollution, stimulated better national environmental laws, and promoted other international action in and beyond Europe. They also give more force to diplomatic protests of egregious polluting practices. The five treaties have promoted a significant amount of international scientific cooperation that has produced more knowledge about marine pollution than man would have possessed without the agreements. In time, this knowledge may promote more substantial development of the treaties.

What European states have accomplished with these five treaties is to lay a solid foundation for effective control of marine pollution. The seas surrounding Europe are covered with treaties that include provisions on nearly all sources. This is a significant achievement. Concern over the health of the oceans is recent and Europe has responded commendably, particularly in economically difficult times and in the face of conflicting scientific evidence. Basic legal and institutional structures to protect European waters are in place. The last ten to fifteen years of activity mark the first stage in protecting

the oceans, that is, establishment of the necessary machinery. This having been successfully accomplished, the second stage has begun. The machinery must be put into operation, the treaties must be developed, regulations and standards need to be adopted, reports on polluting must be submitted and then debated, scientific work must begin to contribute to the adoption and evaluation of regulations, and states must begin to fully support, particularly financially, the agreements they have ratified. Whether the second stage is advancing international law of the sea cannot now be determined, but by the end of this decade it ought to be clear whether Europe has moved the foundation laying work of the 1970s and early 1980s toward a legal regime that will insure protection of its marine environment in the 21st century.

PART III: COORDINATING THE COMPLEX ORGANISATIONAL RESPONSE TO
MARINE POLLUTION

CHAPTER SEVEN

REASONS FOR COORDINATION DIFFICULTIES AND THE
LEGAL FRAMEWORK FOR INTERORGANISATIONAL COORDINATION

A. Introduction

In Chapter Two a range of opinion was presented disparaging coordination among IGOs. Although these views may not be wholly correct, the network is indeed complex and attempts to coordinate it face weighty difficulties. This chapter discusses these barriers and reviews the international law for interorganisational coordination, which is found in the constitutive instruments of global and regional IGOs, their governing bodies' rules of procedure, and the terms of reference of their technical bodies.

The review of causes of coordination problems begins with the historical reasons for the creation of specialized agencies. The problems autonomous agencies engender is exacerbated by regionalism which has multiplied the number of IGOs. Another cause of coordination difficulties is the nature of modern problems IGOs are asked to remedy. These are typically complex and interdisciplinary, environmental threats being their quintessence. Individual governments sometimes fail to coordinate their policies in the IGOs. The result of national disorganisation may be IGO incoherence.

B. Historical Roots of Coordination Difficulties and the Legal Framework for Interorganisational Coordination

1. Historical Roots of Coordination Difficulties

That a host of specialized agencies deal with marine pollution may lead to an instinctive reaction that the framework is irrational and drastic restructuring is necessary. Yet there are reasons for the diffuseness.

The habit of establishing IGOs outside of the global organisation has origins in the inter-war period. There was a desire to restrict membership of some IGOs to states directly concerned with the work of the organisation.⁹⁴⁰ But if an IGO was set up within the League of

Nations, all League members were entitled to be members. Consequently, some institutions were set up apart from the League. Also, the United States was not a League member and gaining its participation in an agency required separating the agency from the League.⁹⁴¹

Although formal demise of the League of Nations did not come until 1946, its fate was apparent long before. Thus, IGOs set up during the war, such as FAO and UNESCO, were not associated with the sinking League. In addition, these bodies, and WHO and IMO, were created during a period of experimentation with the idea that IGOs ought to be established on a functional basis to ensure efficacy.⁹⁴²

Other historical roots of coordination problems lie in the debates that led to creation of the United Nations (U.N.). There was discussion about establishing either a central organ embracing all functional activities or an organ with largely political and policymaking powers that left technical matters to autonomous agencies. Drafters of the U.N. Charter accepted the latter principle, that is, functional decentralization, thereby leaving the specialized agencies responsible for technical work and independent of the U.N.⁹⁴³ Had the Charter given the General Assembly or the Economic and Social Council (ECOSOC) power to control the agencies, and had members of the extant agencies consented, coordination would be less complex. There were a number of reasons why functional decentralization was agreed to. One, because the League failed and it was uncertain if the U.N. could be successfully launched, it was thought wiser to leave the agencies outside the U.N. rather than expose them to the dissension that might beset the central organisation.⁹⁴⁴ Indeed, one of the lessons of the League was "that functional organisations in the economic and social fields can still operate successfully when the central political organ is failing."⁹⁴⁵ Two, technical cooperation in independent agencies was to be isolated from political influences.⁹⁴⁶ Three, not all U.N. members may have been willing to participate in all agencies, in fact, not all original members of the U.N. were members of all extant organisations.⁹⁴⁷ Four, rigid centralization would inhibit efficient planning and implementation of functional programmes.⁹⁴⁸ Five, successful international action in the various economic and social fields depends on participation of national authorities in each field, who would only be able or inclined to participate in relatively small, functional bodies.⁹⁴⁸ Six, absorption of the agencies into the U.N. would have caused severe administrative problems.⁹⁵⁰ Seven, in the 1940s

the activities of the agencies were genuinely distinct and the interdisciplinary problems of today were not foreseen.⁹⁵¹

Thus, the specialized agencies remained apart from the U.N., deriving their authority from and responsible only to their member states. As the U.N. has no budgetting or programming control over the agencies, its means of influence is persuasion. Words, however wise, are usually weak. A basic cause, therefore, of coordination difficulties is that global IGOs, a central part of the network, is without executive control.

The U.N.'s founders, however, were not unaware of potential problems with functional decentralization.⁹⁵² The Preparatory Commission for the San Francisco Conference emphasized that economic and social objectives of the network would be more fully achieved if coordination were established between the U.N. and the agencies.⁹⁵³ Consequently, the U.N. Charter contains several provisions on coordination.⁹⁵⁴

2. The Legal Framework for Interorganisational Coordination

The Charter gives ECOSOC, under the General Assembly's supervision, responsibility for coordination. The coordination tools given ECOSOC, however, are limited. Article 57(1) states the agencies shall be brought into relation with the U.N. in accordance with Article 63. Article 63(1) merely says ECOSOC is responsible for concluding the relationship agreements, and this has been done with all specialized agencies and all agreements follow a similar pattern.⁹⁵⁵ Numerous mechanisms to enhance cohesion are provided for in each agreement, such as exchange of documentation and information and reciprocal representation at one another's meetings. The relationship agreements, however, while they presented the opportunity for the U.N. to increase the limited supervisory powers given it by the Charter, do not materially add to the U.N.'s powers.⁹⁵⁶

Though only specialized agencies are mentioned about being brought into relation with the U.N., the intent of the drafters of the Charter was not to preclude ECOSOC from negotiating agreements with other IGOs, including regional ones.⁹⁵⁷ Yet ECOSOC has made agreements only with the agencies.

Another significant Charter provision is Article 58: "The Organisation shall make recommendations for the co-ordination of the policies and activities of the specialized agencies." ECOSOC may take steps to receive reports from the agencies (Art. 64(1)); allow representatives of agencies to participate in its deliberations (Art. 70); coordinate agency activities through consultation with and recommendations to them and by recommendations to the General Assembly and its members (Art. 63(2));

make studies of economic and social matters and make recommendations on these matters to the General Assembly, U.N. members and the agencies (Art. 62(1)).

There were proposals to give the U.N. more control over the agencies than these provisions allow, but the United States objected on the ground additional U.N. power might make it difficult to get the agencies to enter any agreement with the U.N.⁹⁵⁸ Other countries agreed. "They contended success would depend on the good will of the agencies and on the gradual and voluntary development of relations with them under a loose authorization."⁹⁵⁹

The key of the Charter's scheme is that relationships between the U.N. and agencies is determined by agreement and the U.N.'s coordinating function is exercised by consultation and recommendations and not by over-riding authority.⁹⁶⁰ The design is clear: the agencies have significant independence.

Complementing the Charter's coordination provisions are corresponding terms in agencies' constituent instruments. All agencies involved with marine pollution have a provision in their constituent instruments similar to Article 55 of the IMO Convention: "The Organisation shall be brought into relationship with the United Nations in accordance with Article 57 of the Charter...This relationship shall be effected through an agreement with the United Nations under Article 63 of the Charter..."⁹⁶¹

Most agency constitutions also contain several general provisions regarding relations with other IGOs. Some use mandatory language on cooperation while in others it is discretionary.⁹⁶² Despite such differences one general conclusion emerges: "All the specialized agencies have been designed to play a part in a co-operative scheme of world organisation, and all of their constituent instruments lay the necessary constitutional foundation for their participation in such a scheme, based essentially on autonomy tempered by common responsibility and organized consultation."⁹⁶³

A number of inter-agency agreements have been concluded to carry out the cooperative requirements of the constitutions.⁹⁶⁴ There is a general pattern to these agreements that may be illustrated by discussing the one between IMO and FAO.⁹⁶⁵ It says the agencies, with a view to attaining the objectives in their constitutions, "will act in close co-operation with each other and will consult with each other regularly in regard to matters of common interest" (Art. 1). The agreement provides for reciprocal representation, a framework for joint committees, for

exchanges of information and documentation, a duty on the Secretariats to "maintain a close working relationship," and articles on cooperation in administrative, technical, and statistical matters.

Thus, inter-agency agreements are not detailed but concern the formal structure of relations and in most cases merely state "principles and procedures by means of which substantive questions can be considered as occasion arises."⁹⁶⁶

The legal relationship between the United Nations and agencies and between the agencies themselves is, therefore, governed by their constitutions and the relationship and inter-agency agreements. Though the United Nations and agencies derive their authority from independent grants of authority from their members, it is clear that in drafting the constitutions coordination was a leading preoccupation. "Those instruments and agreements constitute the fundamental law of inter-organisational relationships."⁹⁶⁷

Constituent instruments of regional IGOs generally do not give as much attention to coordination as do those of the specialized agencies. The North Atlantic Treaty contains no reference to coordination,⁹⁶⁸ nor does the agreement that formed the Nordic Council.⁹⁶⁹ The Council of Europe Statute and a 1951 resolution by its Committee of Ministers provide for a general coordination obligation.⁹⁷⁰ There are, however, several fairly specific coordination duties in the OECD Convention⁹⁷¹ and in the treaties of the European Communities.⁹⁷² Although there are considerable differences on coordination in the constituent instruments of regional IGOs, there is a general recognition of the need to take cognizance of activities of other IGOs and to cooperate with IGOs.

Another place to look for the law of inter-organisational coordination is in marine pollution treaties. These may place coordination duties on their administrative bodies. The LDC requires its Secretariat, in carrying out its duties, to consult with IGOs (Art. XIV(3)(c)) and relies on the IAEA to advise on problems of radioactive waste dumping (Annex I, para. 6; Annex II, para. D). Article VIII of the treaty requires its parties to cooperate with parties to regional treaties to develop consistency. The ODC,⁹⁷³ MARPOL 73/78,⁹⁷⁴ and the Helsinki Convention⁹⁷⁵ also contain collaboration provisions. Advisory bodies of a Secretariat may also have coordinating duties. For example, SACS of the Oslo Commission is bound "to seek advice on specific questions from the appropriate international scientific or technical organisation."⁹⁷⁶

These general frameworks have been aided by the relationship and inter-agency agreements, rules of procedure, and by placing coordination duties upon subsidiary bodies, all of which envisage global and regional IGOs functioning to some degree as parts of a wider structure.⁹⁷⁷ On the other hand, the obligations to coordinate are broadly stated, as they must be in founding charters, and the IGOs have significant discretion in interpreting and implementing them, but a basic law of interorganisational relationships exists.

C. Regionalism as a Cause of Coordination Difficulties

The U.N. and agencies are but a part of a complex network of bodies addressing marine pollution. The additional involvement of regional institutions leads not only to the need for more coordination but also to the less likelihood this will be achieved.

A steadily growing number of problems are being dealt with on a less than global basis, both within and outside the U.N. network. The reasons for this have been set forth above.⁹⁷⁸ Essentially, regionalism is the trend in ocean management because it presents a better chance for success. In the past decade or so there has been an explosion of regional bodies concerned with marine pollution.⁹⁷⁹ Most marine pollution treaties created institutions adding to the number of IGOs requiring coordination. The U.N. and agencies have themselves resorted to regionalism.⁹⁸⁰ The Regional Seas Programme of UNEP has already formulated ten regions, many of which have created new institutions and all of which mean additional activities for many existing IGOs. The FAO has six regional fisheries commissions.⁹⁸¹

These developments have come rapidly making it more difficult to set up and effectively operate coordinating machinery within the welter of regional U.N. bodies, regional IGOs, and the specialized agencies and the local divisions they have established. The regional IGOs include not only the commissions of the marine pollution control treaties, but also the long-standing regional IGOs of wider competence. The majority of these, "especially in Europe, believes that they each have a special function or constituency which distinguishes their role from that of other organisations, and thus justifies their existence."⁹⁸² If true, the goal of the coordinator is more unobtainable.

D. The Challenges of Modern Society as a Cause of Coordination Difficulties

Professor Sharp says:

Perhaps the most appropriate point of departure of this exercise is to recall...that the economic and social problems within the competence of the U.N. system do not break down according to the categories of responsibility set by the [U.N.] Charter...and the Constitutions of the specialized agencies. Problems have multiple aspects, and often sit astride the agencies. Topics merge constantly into other topics. Coordination is accordingly an extremely complex and difficult task.⁹⁸³

Environmental problems of the oceans illustrate these points.⁹⁸⁴ Pollution, because it is caused by a range of man's activities, inevitably falls within the competence of many IGOs, and IGOs desire to do as much as possible rather than as little as possible.⁹⁸⁵ The typically broad constituent instruments of IGOs allow them to legitimately address environmental problems. Thus, IMO, originally concerned with such shipping matters as navigation and safety, is now heavily involved with ship pollution; because FAO is concerned with developing fisheries as a food source, it addresses marine pollution's effect on this food source; UNESCO's large education and training work has been expanded to assist the development of marine scientists in understanding marine pollution; because the atmosphere carries pollutants to the sea the WMO now studies this source of marine pollution. Other IGOs, as WHO and IAEA, are also legitimately working in certain spheres of marine environmental protection work.

Professor Sharp says modern problems merge with one another.⁹⁸⁶ So it is with ecological threats. For example, significant reductions of land-based pollution would be extraordinarily expensive, have acute internal political ramifications, and cause some states to limit the industrial development they seek.

Man's inventive mind constantly brings about new environmental challenges that expand the tasks of more than one IGO and make rationalization and prioritization of activities more perplexing. For example, the feasibility of exploiting deepsea nodules may endanger the marine environment and has led to the likely creation of a new IGO, the ISBA. But other IGOs, as FAO, IMO, and UNEP, will also have a role in this area.

Modern challenges are exacerbated by the expanding number of states. This makes it less likely IGO governing bodies will be consistent with one another. In an era of a growing number of states, with the consequent growth in the number of interests demanding satisfaction, developing a tidy organisational network is not easy. These factors

lessen the chance of agreement on priorities and lead not only to the demand for more activities by IGOs, but also to the creation of new IGOs, such as the United Nations Conference on Trade and Development and the United Nations Industrial Development Organisation. These factors have also caused the placement of some IGOs far from the centres of international activity in Geneva and New York. Lack of geographical proximity inhibits optimal coordination.

UNEP's headquarters is in Kenya and the ISBA's will be in Jamaica. UNEP's location has been referred to as a "critical" problem that puts it in a "state of quasi-permanent isolation."⁹⁸⁷ "Senior staffers find themselves almost continually spinning their wheels in their effort to get to and from conferences."⁹⁸⁸ Until August 1985 UNEP's successful Regional Seas Activity Centre was in Geneva. It is now in Kenya. The Centre's entire staff has resigned and its past Director believes the favorable conditions under which the Centre operated in Geneva cannot be even closely matched in Nairobi, and, consequently, the transfer will detrimentally effect the Centre for many years.⁹⁸⁹

E. Lack of National Coordination as a Cause of Coordination Difficulties

In carrying out the objectives of coordination the principle responsibility rests upon the national governments...⁹⁹⁰

Since specialized agencies are intergovernmental, it is states that control them; so too with the U.N. Though membership of the U.N. and all the agencies is not identical, it is largely the same. Simplistically, if IGOs are feuding it is the state representatives in them that are feuding and it is a "simple" task for states to instruct their representatives to cooperate and ensure coordination. Activities of different IGOs can only be expected to be coherent when the members conduct a consistent policy in each.⁹⁹¹ These propositions apply to the European IGOs as well, that have for the most part a group of states that are members in each. Lack of national consensus can also inhibit the effectiveness of a coordinating body, such as ECOSOC. If its members do not have a consistent coordinating policy, ECOSOC will not.

That national coordination is fundamental to coordination of IGOs was recognised soon after the U.N. was created and has continued to be emphasized. General Assembly resolutions on this have been adopted in 1947, 1950, 1955, 1956, 1958, and 1967.⁹⁹² UNESCO studied the issue in 1948 as did the U.N. Secretariat in 1958.⁹⁹³ The Five-Year Perspective, written in 1960 for the U.N., said national coordination in IGOs was not "fully satisfactory."⁹⁹⁴ In the mid-1970s the U.N.

Secretariat expressed the need for states "to improve their national coordination in the marine field if they wish to see better inter-agency coordination."⁹⁹⁵ A recent meeting of experts on regional marine programmes reminded states to coordinate their internal policies so the United Nations system develops coherent policy towards the various regional ocean programmes.⁹⁹⁶ Professor McRae has said:

If each state can determine its own objectives in relation to the international management of the oceans, and can then pursue these objectives consistently within the different organisations concerned with the oceans, then many of the [coordination] problems referred to here will diminish.

If states can coordinate their own policies within different organisations, then the organisations themselves will have a far easier task of coordinating their activities.⁹⁹⁷

At the national level "marine matters are often...distributed among a number of different government departments and coordination is probably difficult to achieve."⁹⁹⁸ A consistent oceans policy is a problem for large states,⁹⁹⁹ such as the United States.¹⁰⁰⁰ This country's policy formulation for LOSC negotiations was troubled by "petty and uncontrollable interagency squabbling;"¹⁰⁰¹ not surprising since its delegation included representatives from eleven agencies and nine Congressional committees.¹⁰⁰² A Foreign Policy article explains the tortuous path the United States tread in 1970 to arrive at a law of the sea policy and how in 1971 and 1972 pressures from industry and disputing bureaucracies broke the compromises of this policy.¹⁰⁰³

In 1977 concern was expressed about the division of authority over ocean activities among twenty British governmental departments and the need for a coordinating body.¹⁰⁰⁴ The situation persists as do calls for coordination.¹⁰⁰⁵ Analyses have revealed similar problems in the Netherlands¹⁰⁰⁶ and Norway.¹⁰⁰⁷ In fact, "[f]ew European countries... have a truly centralized approach to their various maritime responsibilities."¹⁰⁰⁸ A study of the political and economic factors in formulating IMO conventions on ship pollution found that national ministries involved in the negotiations at IMO "are often in conflict with others within their own governments."¹⁰⁰⁹

Regarding just environmental matters, there is also significant dispersion of responsibility in a number of countries.¹⁰¹⁰ In Canada six departments play a role in controlling marine pollution.¹⁰¹¹ But none "has a clear mandate...and no department is exercising a lead role..."¹⁰¹² Such problems also affect developing countries and have been aggravated by the creation of many new states with only rudimentary administrative structures and a lack of able administrators.¹⁰¹³

A problem affecting many countries "is frequent restructuring of bureaucracies responsible for environmental matters, accompanied by personnel changes. This results in frequent shifts in the composition of national scientific or governmental delegations sent to meetings."¹⁰¹⁴ Maintaining consistent, coordinated policy is difficult under such circumstances.

"[I]t would be a mistake to assume that for practical purposes it is the same government that is represented in each of the specialized agencies behind the name-plate of a single member state."¹⁰¹⁵

In the experience of the writer, and of virtually every head of an intergovernmental body with whom he has talked, the coordinating mechanisms in capitols very rarely perform their tasks, and it is common experience to see the representative of a particular Government putting forward in the governing body of an organisation to which he is accredited a line of policy quite different from and incompatible with the line taken by another representative of the same Government in another organisation. This is the bane of any head of organisation who conscientiously tries to programme his body with an eye upon the activities of other organisations.¹⁰¹⁶

Such complaints were substantiated in 1966 by Sir Robert Jackson's study of the U.N. system.¹⁰¹⁷

Thus, it is not surprising the totality of IGO programmes sometimes lacks consistency and direction. An attempt to properly coordinate policy must, furthermore, contend with bureaucratic competition among governmental departments that tend to promote the activities of the IGOs with which they continually deal.¹⁰¹⁸ "One result of this is a confusion on the part of secretariats of various organisations which believe that they are espousing the will of their members..."¹⁰¹⁹ It also hampers the work of IGOs, leads to lack of coordination, and dissipates resources.

While it may be true that the environmental work of IGOs is best visualized as a roof with "a jungle of gables and turrets of unequal height which has a tendency to leak,"¹⁰²⁰ it is unfair to place the blame solely on the organisations and individuals working in them. One reads continually about lack of coordination among IGOs, but too often the critics fail to distribute responsibility. States themselves constructed the ungainly roof of gables and turrets and have the power to redesign it. Adlai Stevenson's comment that "Governments cannot be wiser than the people" might be restated as "IGOs cannot be wiser than their member states."¹⁰²¹

CHAPTER EIGHT

THE GLOBAL IGOs: MARINE POLLUTION ACTIVITIES AND CONSTITUTIONAL CAPABILITIES TO DEVELOP INTERNATIONAL ENVIRONMENTAL LAW

A. Introduction

Not all global IGOs address marine pollution and those that do, do so to varying degrees. The relevant IGOs are IMO, UNEP, ISBA, IAEA, IOC, FAO, WHO, and WMO. Of these, IMO, UNEP, and ISBA are the most significant. They have more marine pollution activities and have played, or are capable of playing, a more prominent role in developing law.

Two general aspects of the organisations are reviewed. First, their mandate and powers are discussed. The survey of mandates involves the search for an environmental competence while analysis of powers seeks to ascertain a constitutional capability to develop international law. Second, the organisations' marine pollution activities are surveyed. Such activities may include the exercise of their law-making and law-promoting powers and, more commonly, disseminating information, convening conferences, and making scientific investigations of the sources and effects of marine pollution. This latter group of activities will be referred to as research and information.

There are several reasons for this study of global IGOs. A purpose of the thesis is to examine the world community's response to marine pollution. The legal response has been reviewed and now the organisational response will be surveyed. And, as will be shown, the work of IGOs is an important part of the response. The IGOs are also studied because a review of their constituting instruments, along with how they have exercised delegated powers, will reveal what role they are able to play in developing the international environmental law of the sea. A review of the organisations will also help understand another theme of the thesis, coordination. It is hoped the survey will reveal whether mandates and activities overlap and which, if any, IGO has lead responsibility for addressing each source of marine pollution and which have subsidiary roles. This latter analysis may aid in sorting out the coordination issue for it may reveal that jurisdictional demarcations for each pollution source are clear; or it may reveal not only constitutional confusion but also poorly coordinated activities.

Before reviewing the global IGOs, it will be helpful to comment

on the concept of international legislation, as this subject is a feature of the chapter. This discussion is brief and it is recognised that the that the concept is a matter of controversy.

The basic features of international legislation are similar to national legislation, where legislation "means the enactment of rules by a law-making organ of the community as a whole in a manner which effectively overrules dissent."¹⁰²² Thus, when an IGO has been granted the power to adopt or revise rules of international law without them having to be accepted by the states to which they are addressed, such a body has the power to legislate.¹⁰²³ A legislative act has been defined as "one which is binding on its addressees by virtue of the decisions of the organisation and which lays down general and abstractly formulated rules of conduct."¹⁰²⁴ Three elements can be found in this notion of international legislation. One, such legislation issues from and is imputed to an IGO exercising a power to create law for the members to which it is addressed.¹⁰²⁵ It is not imputed to individual members, as in the case of a treaty or other act requiring consent. Two, legislation creates law for its addressees.¹⁰²⁶ Three, there is the element of generality; that is, the legislation must be directed to an indeterminate number of states and susceptible of repeated application.¹⁰²⁷ Legislative acts of an IGO may take two forms.

The first consists of States individually consenting to the rule, and when their ratifications (or other acts of approval) reach the required number, the rule becomes binding for all, and not exclusively for those consenting. The second form is an [IGO's]...law-making resolution which enters into force for all members without the necessity of any subsequent ratification or similar act by individual States.¹⁰²⁸

The study below reveals states have not given global IGOs legislative competence. Though it is true ISBA may adopt regulations for deepsea mining, this body does not yet exist and, as several of the few countries capable of deepsea mining are unlikely to ratify the LOSC, the ISBA's power to legislate may be irrelevant. Although without truly legislative competence, a few IGOs -- IMO, WHO, and WMO -- have quasi-legislative power. An IGO with quasi-legislative power is able to make law through majority decision, but members retain the right to reject the law or make reservations to it and sometimes the adopted act has only a qualified legal effect under the IGO's constitution.¹⁰²⁹ Under MARPOL 73/78, for example, IMO may amend the technical annexes. States have the option, however, of rejecting the amendment and, if they do so in a timely manner, the amendment does not apply to them. This mechanism

is referred to as opting or contracting out and allows states to retain sovereignty and denies IGOs pure legislative functions. WHO is empowered to adopt health regulations but its constitution provides for contracting out. WMO may adopt regulations and, though opting out is not available, the legal effect, though binding, is qualified, for states must only do their "utmost" to implement regulations labelled recommendations and they need not implement regulations labelled standards if it is "impracticable to do so."

Besides quasi-legislative powers, global IGOs have also been given functions that contribute to the development of international law. These may be referred to as law-promoting powers. Many IGOs may draft treaties and either adopt them or convene intergovernmental conferences for their consideration. They may also adopt non-binding acts, variously called recommendations, resolutions, guidelines, principles, and codes. While each of these law-promoting acts have sometimes been labelled legislation or quasi-legislation,¹⁰³⁰ this is improper.¹⁰³¹ Such actions bear insufficient resemblance to legislation. Also failing to satisfy the elements of legislation are acts that, though binding, require unanimity for adoption. Application of the consent principle makes such acts more like treaties than legislation. Nonetheless, it is to be kept in mind that although the bulk of IGO actions are not legislation, they may contribute to the development of the international environmental law of the sea.

B. The International Maritime Organisation

1. Mandate and Powers

Article 1(a) of the IMO Convention sets forth the agency's purposes for this thesis.¹⁰³² These include the duty to encourage the adoption of the highest practicable standards in matters concerning the prevention and control of ship pollution and to deal with related legal issues. Article 2 says IMO's functions are "consultative and advisory." This portends a limited legislative role, but Article 3 on how IMO is to achieve its purposes is more hopeful. It says IMO shall make recommendations on ship pollution matters submitted to it by member states, the United Nations, and any IGO; provide for the drafting of conventions, agreements, and other instruments and convene conferences; provide machinery for consultation among members and exchange of information among states; and perform functions assigned to it under international instruments. Some instruments give IMO a considerable legislative role.

IMO's Assembly may adopt regulations and guidelines, but these are not binding, only recommendatory (Art. 16(j)). The Assembly does not generally draft its recommendations. This is done by IMO's committees, which pass them through the Council for comment or revision (Art. 22(b)). In fact, control of IMO is in the Council (Art. 16(i)).¹⁰³³

The Maritime Safety Committee is IMO's main technical organ. It has numerous subcommittees and drafts most IMO regulations and many of its conventions.¹⁰³⁴ The Legal Committee, responsible for considering legal matters within IMO's mandate (Art. 34(a)), began as an ad hoc body to study legal questions that arose upon the Torrey Canyon incident.¹⁰³⁵ It was soon recognised, however, that the committee would have to become permanent to give IMO an institutional framework to deal with the legal problems made strikingly apparent by the incident. Yet it is the Marine Environment Protection Committee (MEPC) that is at the vanguard in IMO's effort to protect the seas from ship pollution. The MEPC began in 1965 as the Maritime Safety Committee's Subcommittee on Oil Pollution, eventually becoming the full-fledged MEPC in 1973.¹⁰³⁶ Its mandate is to "consider any matter within the scope of the Organisation concerned with the prevention and control of marine pollution from ships..." (Art 39). More specifically, MEPC is to perform those duties conferred on IMO by treaties for the control of ship pollution, "particularly with respect to the adoption and amendment of regulations or other provisions, as provided for in such conventions..." (Art. 39(a)). MEPC is also to submit to the Council recommendations and guidelines and proposals for regulations for the control of ship pollution, and for amendments to such regulations (Art. 40(a)(b)). "In practice...most of MEPC's work deals with the development and application of regulations contained in the pollution agreements administered by [IMO]."¹⁰³⁷

2. Activities

The manner in which IMO carries out its mandate is varied and includes drafting and amending conventions, adopting codes and regulations, and providing technical assistance.

The IMO Convention allows IMO to convene conferences to consider draft conventions it has produced.¹⁰³⁸ IMO has commonly done this and twenty treaties have been adopted under its auspices. Most of these are in force and, as a whole, mark a significant contribution to international law, including international environmental law.

IMO CONVENTIONS AS OF 1 JANUARY 1985

CONVENTION	DATE ADOPTED	DATE IN FORCE	NUMBER OF RATIFICATIONS
<u>MARITIME SAFETY</u>			
Load Lines	1966	1968	102
Special Trade and Passenger Ship Agreement	1971	1974	13
Safe Containers	1972	1977	39
Int'l. Regulations for Preventing Collisions at Sea	1972	1977	88
Safety of Life at Sea	1973	1980	82
Int'l. Maritime Satellite Organisation and Operating Agreement	1976	1979	42
Safety for Fishing Vessels	1977	-	12
Standards of Training, Certification and Watchkeeping for Seafarers	1978	1984	37
Maritime Search and Rescue	1979	1985	15
<u>PREVENTION OF MARINE POLLUTION</u>			
Prevention of Pollution of the Sea by Oil	1954	1958	71
Intervention on the High Seas in Cases of Oil Pollution Casualties	1969	1975	47
London Dumping Convention	1972	1975	56
Prevention of Pollution from Ships	1973	1983	33

LIABILITY AND
COMPENSATION

Civil Liability for Oil Pollution Damage	1969	1975	55
Establishment of an Int'l. Fund for Comp- ensation for Oil Pollution Damage	1971	1978	30
Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material	1971	1975	11
Relating to the Carriage of Passengers and Their Luggage by Ships	1974	-	9
Limitations of Liability for Maritime Claims	1976	-	11

OTHER MATTERS

Facilitation of Int'l. Maritime Traffic	1965	1967	54
Tonnage Measure- ment of Ships	1969	1982	65

A number of IMO's conventions did not result from its initiative, an indication perhaps of the organisation's passivity. The 1969 Intervention and Civil Liability Conventions were prompted by the international clamour for action following the Torrey Canyon incident.¹⁰³⁹ MARPOL 73/78 came about largely due to pressure by the United States,¹⁰⁴⁰ as did the Convention on Standards of Training, Certification and Watchkeeping for Seafarers.¹⁰⁴¹ And IMO marine pollution conventions have been criticized as being "largely limited to confirming what the transportation industry has already found to be economically and operationally acceptable."¹⁰⁴² The 1969 and 1971 amendments to the OILPOL Convention, for example, "merely [codified] existing industry practice as far as operational discharges and tank sizes...are concerned."¹⁰⁴³ Similar comments have been made on an IMO resolution on gas inert systems for oil tankers¹⁰⁴⁴ and on a 1969 amendment of the OILPOL Convention to require the load-on-top system.¹⁰⁴⁵

It is the membership of IMO's committees that determines the effectiveness of its proposals. But the developed states dominate the committees; in fact, a study in the mid-1970s found that developing countries seldom sent representatives to meetings of the Legal Committee and MEPC.¹⁰⁴⁶

IMO conventions provide that proposed amendments are to be either rejected or adopted in IMO, and IMO has been active here, for amendments to various treaties have been drafted by IMO and adopted by states.¹⁰⁴⁷ There is often a need to revise environmental agreements for they typically contain technical provisions subject to obsolescence. The traditional method of amending treaties is time consuming, expensive, and often futile. It is necessary to convene a diplomatic conference each time an amendment is proposed. Elaborate ratification procedures are often required under national law. To come into force a certain number of states must ratify the amendment and this number rises as a treaty attracts more parties. A representative of Britain to IMO said "'unless the problem of entry into force of amendments was solved in a more satisfactory way than at present, [IMO] would be wasting its time, since a great deal of its work would be futile.'"¹⁰⁴⁸ Thus, IMO decided to facilitate revising treaties by tacit amendment,¹⁰⁴⁹ giving IMO significantly more power to develop international law.

[Tacit amendment] means that the body which adopts the amendment at the same time fixes a time period within which contracting parties will have the opportunity to notify either their acceptance or...rejection...or to remain silent on the

subject. In case of silence, the amendment is considered to have been accepted by that party.¹⁰⁵⁰

Such a method is well suited for conventions with technical annexes. The classical method of amendment remains for revising articles in the body of a treaty. Though a number of IMO conventions have a tacit amendment clause, MARPOL 73/78 does as well.¹⁰⁵¹ Thus, with IMO's most important environmental treaty, the organisation has a tool to efficiently develop it and keep it apace with changing circumstances. Careful use of this quasi-legislative mechanism, which is likely to be included in all future IMO conventions, will enhance IMO's role as a norm creating IGO. It does, however, remain to "be kept in mind that even though amendments have come into force they must still be implemented; entry into force and implementation are two distinct phenomena."¹⁰⁵²

Besides drafting conventions, working for their entry into force, and amending them, IMO's other method of work is promulgating recommendations, initiating studies and making the results available to states, and providing technical assistance.¹⁰⁵³ While the latter two activities are important, particularly technical assistance, it is the promulgation of recommendations that deserves attention here.

Several hundred recommendations dealing with a wide range of subjects have been adopted by IMO.¹⁰⁵⁴ They support or assist implementation of treaties or IMO's principal codes and provide guidance to states in framing national legislation.¹⁰⁵⁵ The recommendations include codes, guidelines, and recommended practices and mark a considerable contribution to safe maritime practices and, hence, less pollution. The recommendations are not legally binding but many find their way into national law.¹⁰⁵⁶ Depending upon the extent of such absorption, they may become customary international law. IMO's codes "are held in high esteem by experts...and it can fairly be said that they have become indispensable tools for the conduct of maritime shipping."¹⁰⁵⁷ Also, the "Codes are increasingly being used as testing grounds for regulatory concepts later to be incorporated into conventions which, in their turn, have a binding character."¹⁰⁵⁸ Some of the codes are voluminous. The International Maritime Dangerous Goods Code (IMDG Code), for example, comprises ten volumes.¹⁰⁵⁹ Such comprehensive regulations, adopted by international consensus, may well have the character of a "standard" as that word is used in the LOSC.¹⁰⁶⁰ The IMDG Code has been adopted by 37 states, including all major maritime states, partially by one state, and is being considered for adoption by five others.¹⁰⁶¹

3. Conclusion

Of all IGOs existing before the environmental awakening, IMO has made the most forceful move into marine environmental issues. Its response has involved internal restructuring and an attempt to develop environmental law of the sea. The MEPC began in 1965 as a subcommittee of another committee and only concerned with oil pollution. By 1973 it was institutionalized on an equal status with the Maritime Safety Committee and given a broader mandate. While this change may have been largely in IMO's self-interest,¹⁰⁶² this is irrelevant. The rise of the MEPC has meant a concomitant redirection of IMO's activities and a positive effect on international environmental law.

IMO does not intend to go on adopting treaties at the pace it has. Instead, it will seek ratification and implementation of existing treaties.¹⁰⁶³ It also hopes to avoid amending treaties as often.¹⁰⁶⁴ One important project for international law is called the Uniform Interpretation and Application of the Provisions of MARPOL 73/78.¹⁰⁶⁵ IMO will continue to update codes and recommendations and adopt new ones where necessary, some of which may, as their predecessors have, mark the initial step towards a convention, be incorporated into national law, develop into rules of customary law, or become part of international law through the terms of the LOSC. The tacit amendment procedure will allow IMO to keep agreements abreast of changing circumstances. Such future work will build on the already "substantial progress" states have made in IMO to control ship pollution.¹⁰⁶⁶

IMO is the unrivalled IGO to handle ship pollution. It also has a role to play in controlling other sources. At UNCLOS III, IMO expressed its opinion that it was the appropriate IGO to consider issues of ocean dumping.¹⁰⁶⁷ There may be truth to this. The global dumping convention, the LDC, convenes its Consultative Meetings at IMO and IMO provides the secretariat. Representatives of regional dumping agreements as well as UNEP believe the LDC is the place to address the broader issues of ocean dumping.¹⁰⁶⁸ As a result IMO is well-situated to play a significant role in dumping questions. Problems of pollution from offshore activities have not been brought within the mandate and activities of any one IGO. As IMO has done work and has projects planned in this area¹⁰⁶⁹ and since its expertise in ship pollution is probably adaptable to offshore processes, it is likely IMO will play a prominent role in developing law to control pollution from offshore mining, doing so through its blend of conventions, recommendations, codes, guidelines,

and technical assistance. Similarly, IMO may be helpful in regulating deepsea mining, although the ISBA will be the lead institution here.

C. The United Nations Environment Programme

1. Mandate and Powers

UNEP was the foremost consequence of the 1972 Stockholm Conference on the Environment. Representatives to the conference recognised there were plenty of IGOs to do environmental work. Thus, another specialized agency with regulatory powers^s was viewed as unnecessary. On the other hand, something was needed because the system was perceived as inadequately responding to environmental challenges. An institution was needed "to coordinate environment-related activities, to serve as a focal point for global environment concerns, and to stimulate and catalyze action where it was needed."¹⁰⁷⁰ Thus, UNEP is not an operational body, it does not have the power to promulgate binding regulations, enforce treaties, nor to assume the environment work of other IGOs. It does not have quasi-legislative power. It is to be concerned with the results and information obtained by other bodies and with determining what gaps exist in environmental programmes and regulations and how they ought to be filled. The novelty of UNEP is that it is to be catalytic. "It is more a centre of initiative, centre of coordination, a centre through which information flows, a mechanism by which governments [and IGOs] can get together to do things."¹⁰⁷¹ In the hope of less bureaucracy and more effectiveness, UNEP was given a small secretariat to serve as the focal point for environmental coordination.¹⁰⁷²

UNEP does not have a constitution setting forth its mandate. The United Nations General Assembly resolution establishing UNEP merely sketches UNEP's functions.¹⁰⁷³ More guidance to UNEP's purposes can be found in several sources. There is the Stockholm Declaration, which UNEP was designed to complement.¹⁰⁷⁴ In fact, the General Assembly referred the Stockholm Declaration to UNEP "for appropriate action."¹⁰⁷⁵ The Declaration is thus something more than a bundle of hortatory statements, it is akin to a constitution for UNEP.¹⁰⁷⁶ From time to time the General Assembly issues instructions to UNEP about what activities it should undertake.¹⁰⁷⁷ UNEP's Governing Council also provides guidance in the form of decisions that elaborate the Stockholm Declaration and General Assembly resolutions.

In what areas is UNEP to exercise its role as a coordinator and catalyzer? Recommendations in the Stockholm Declaration's Action Plan

provide some answers.¹⁰⁷⁸ Recommendations 86 to 94 deal specifically with marine pollution. There is a call to control maritime and land-based sources (Reco. 86(a)(f)). Global IGOs are to provide guidelines that governments may take into account when developing measures to control all significant sources of marine pollution (Reco 92(a)). States are to cooperate regionally and, where appropriate, on a wider basis in developing such measures (Reco. 92(b)). States are asked to contribute to international programmes for research and monitoring (Reco. 87). UNEP has undertaken activities to realize many of the recommendations, not single-handedly, but in cooperation with other IGOs.

In UNEP's early years there was some doubt about its role in developing international environmental law,¹⁰⁷⁹ a doubt exacerbated by a 1974 Governing Council decision stating that "'UNEP has no formal mandate in this connection.'" ¹⁰⁸⁰ The Council did, however, add UNEP can facilitate the development of law "'by initiating appropriate consultations between experts.'" ¹⁰⁸¹ At its 1975 session the Governing Council went further and adopted a broad environmental law programme; some of the objectives include: contributing to the development and codification of a new body of international law; facilitating cooperation among states for the development of international law regarding responsibility, liability, and compensation; contributing to the development of environmental law on the national and regional levels; promoting protection of the international commons; and working towards establishment of guidelines and procedures for the avoidance and settlement of environmental disputes.¹⁰⁸² In 1975 the General Assembly affirmed UNEP's role in developing international environmental law.¹⁰⁸³

2. Activities

UNEP is to address itself to all environmental problems, not just marine pollution. Confronting all global environmental problems is daunting. To give order to this complex endeavour, UNEP has divided environmental problems into "priority subject areas," two of these are "oceans" and "environmental law."¹⁰⁸⁴ Before examining these, UNEP's general approach to its work, a three part framework, will be presented.

ENVIRONMENTAL ASSESSMENT

monitoring, research,
evaluation and review,
information exchange

ENVIRONMENTAL MANAGEMENT

goal setting, environmental
law, international consulta-
tion and agreements

SUPPORTING MEASURES

environmental education and training,
organisation, financing, technical
assistance, public information

Assessment, management, and supporting measures are functional tasks of UNEP. Assessment is a prerequisite to adequate management. "Environmental assessment is the collection, collation, and interpretation of data that describes and evaluates the conditions and trends of the environment, and the effects of man's activities on it."¹⁰⁸⁵ UNEP's environmental assessment programme is called Earthwatch and its two main components are the Global Environmental Monitoring System (GEMS) and the International Referral System for Sources of Environmental Information.¹⁰⁸⁶ GEMS encourages and coordinates data collection by governments and IGOs and the International Referral System performs the complementary function of organising and distributing data.¹⁰⁸⁷

As for UNEP's environmental management work, the essential goal is to inject concern for environmental implications into decisionmaking processes at all levels, national and international, and in all sectors, industrial, military, agricultural, etc.¹⁰⁸⁹

Environmental assessment and management will not succeed without the support of an informed public and informed governments. Thus, supporting measures are an essential part of UNEP's functions and include environmental education and training; technical assistance; Regional Advisory Teams serving West Asia, Latin America, Africa, and Asia and the Pacific; publications; and dissemination of information.¹⁰⁹¹

a. Priority Area "Oceans"

Work undertaken within the priority area of "oceans" is almost wholly accomplished within UNEP's Regional Seas Programme (RSP).¹⁰⁹² The Programme began in 1974 after the regional approach to marine pollution control was endorsed by the Governing Council.¹⁰⁹³

The RSP is an action-oriented programme concerned with the consequences and causes of environmental degradation and encompasses a comprehensive approach to combating environmental problems through the management of marine and coastal areas.¹⁰⁹⁴ Ten regions, involving about 130 states, now make up the RSP.

The RSP involves three phases in developing regional action plans: preliminary, preparatory, and operational.¹⁰⁹⁵ The preliminary phase begins with a decision by UNEP to approach the governments of a region with the idea of developing a plan for the protection and development of their natural resources, particularly with regard to resources of the marine area. It is for the governments to decide if they wish to pursue the idea and to decide which countries to include in the region. After

PARTICIPANTS IN UNEP'S REGIONAL SEAS PROGRAMME AND RELATED REGIONAL CONVENTIONS

1. Mediterranean Region			2. Kuwait Action Plan Region			3. Wider Caribbean Region		
Participants	Convention signed	Convention ratified	Participants	Convention signed	Convention ratified	Participants	Convention signed	Convention ratified
Albania	-	-	Bahrain	yes	yes	Antigua and Barbuda	-	-
Algeria	yes	yes	Iran	yes	yes	Bahamas	-	-
Cyprus	yes	yes	Iraq	yes	yes	Barbados	yes	-
Egypt	yes	yes	Kuwait	yes	yes	Belize	-	-
France	yes	yes	Oman	yes	yes	Colombia	yes	-
Greece	yes	yes	Qatar	yes	yes	Costa Rica	-	-
Israel	yes	yes	Saudi Arabia	yes	yes	Cuba	-	-
Italy	yes	yes	United Arab Emirates	yes	yes	Dominica	-	-
Lebanon	yes	yes				Dominion Repub.	-	-
Libya	yes	yes				EEC	yes	-
Malta	yes	yes				France	yes	-
Monaco	yes	yes				Grenada	yes	-
Morocco	yes	yes				Guatemala	yes	-
Spain	yes	yes				Guyana	-	-
Syria	yes	yes				Haiti	-	-
Tunisia	yes	yes				Honduras	yes	-
Turkey	yes	yes				Jamaica	yes	-
Yugoslavia	yes	yes				Mexico	yes	-
EEC	yes	yes				Netherlands	yes	yes
						Netherland Antilles	-	-
						Nicaragua	yes	-
						Panama	yes	-
						St. Christopher and Nevis	-	-
						St. Lucia	yes	yes
						St. Vincent and the Grenadines	-	-
						Suriname	-	-
						Trinidad and Tobago	-	-
						United Kingdom	yes	-
						United States	yes	yes
						Venezuela	yes	-

7. Red Sea and Gulf of Aden Region

5. East African Region

4. West and Central African Region

Participants	Convention signed	Convention ratified	Participants	Convention signed	Convention ratified	Participants	Convention signed	Convention ratified
Angola	-	-	Comoros			Democratic Yemen	yes	-
Benin	yes	-	France	yes		Djibouti	-	-
Cameroon	yes	yes	Kenya			Jordan	yes	-
Cape Verde	-	-	Madagascar	yes		Palestine (PLO)	yes	yes
Congo	yes	-	Mauritius			Saudi Arabia	yes	-
Equatorial Guinea	-	-	Mozambique			Somalia	yes	-
Gabon	yes	-	Seychelles	yes		Sudan	yes	yes
Gambia	yes	-	Somalia	yes		Yemen	yes	yes
Ghana	yes	-	Tanzania					
Guinea	yes	yes						
Guinea-Bissau	-	-						
Ivory Coast	yes	yes						
Liberia	yes	-						
Mauritania	yes	-						
Namibia	-	-						
Nigeria	yes	yes						
Sao Tome and Principe	-	-						
Senegal	yes	-						
Sierra Leone	-	-						
Togo	yes	yes						
Zaire	-	-						

6. East Asian Seas Region

Participants	Convention signed	Convention ratified
Indonesia		
Malaysia		
Philippines	no convention	
Singapore	planned	
Thailand		

acceptance of the idea, the process enters the preparatory phase, beginning with interagency consultation. UNEP brings together IGOs to discuss a strategy for the region. At the meeting, responsibilities for carrying out the preparatory phase are divided among the IGOs. In the Wider Caribbean, for example, the following IGOs helped develop the action plan: UNEP, FAO, IOC, IMO, the U.N. Department of International Economic and Social Affairs, the Caribbean Conservation Association, the U.N. Disaster Relief Organisation, the Economic Commission for Latin America, the Pan American Health Organisation, UNESCO, the U.N. Industrial Development Organisation, and the International Union for the Conservation of Nature.¹⁰⁹⁶ The next step is collection of information about the area. The information sought is varied, intended to "provide a general assessment of the state of the environment and should serve as the basis for environmentally sound management and development decisions."¹⁰⁹⁷ The background data is then presented to a group of experts nominated by the regional states. Their opinion is sought on proposals for the action plan. Although the experts act in their personal capacity they tend to reflect the basic views of their governments. The experts of the Wider Caribbean Region studied 66 project proposals, each devised by IGOs but based on recommendations made by the experts.¹⁰⁹⁸ Another part of the preparatory phase is obtaining reactions of the states to the gradually developing plan. The Wider Caribbean Region again provides an example. Between the first and second meeting of the national experts, a draft of project proposals was sent to all states and territories of the region and to a number of IGOs with a request for comments and suggestions for improvement.¹⁰⁹⁹ This is an important aspect of the RSP strategy because a plan's value depends upon ultimate cooperation of states and thus it is important they play a role in its development. The plan is not devised by UNEP and then thrust upon the states.

The most important event in the development of a regional action plan follows the assessment aspect and is an intergovernmental meeting that discusses and, with good fortune, adopts the proposed action plan. The operational phase of the strategy can now go forward.

Much of the implementation revolves around the institution selected at the time the plan is adopted and responsible to the states for coordinating and supervising implementation. Sometimes UNEP has been nominated, sometimes an IGO has been created, and in some regions a pre-existing regional body has taken on the duties.

Implementation of an action plan depends on the states, not UNEP

and its fellow IGOs, though the organisations do assist with money, advice, and technology. The action plan itself usually contains four parts: assessment, management, legislation, and supporting measures.¹¹⁰⁰

Assessment has priority because it concerns vital studies of the sources, amount, and effects of pollution, as well as development practices that effect the marine environment. An ongoing assessment programme assists the formation of environmentally sound management decisions and legal instruments, and facilitates updating legislation. For example, the Mediterranean Action Plan, the first adopted in the RSP, contained MED POL, discussed in Chapter Six. The management element of an action plan aims "to help managers improve their ability to make decisions on their own and to develop integrated plans for coastal area development,"¹¹⁰¹ such as control of coastal erosion and rational exploitation of marine resources. As for an action plan's legislative element, a convention on the preservation of the region's marine environment may be agreed to when the plan is adopted or at a later time. It is also possible that no convention is adopted or even planned. Treaties of the RSP are typically umbrella agreements, to be supplemented with specific protocols. RSP protocols have developed legal obligations on dumping, land-based pollution, protected areas, and cooperative action in emergencies.¹¹⁰² Throughout the operational phase, UNEP coordinates the supporting measures offered by itself and other IGOs. This involves financial assistance, scientific advice, administrative help, and suggestions on technical problems. But "[o]nce UNEP and the specialized agencies have assisted the governments of a region to initiate their regional action plan, UNEP's responsibility and financial support will gradually diminish, eventually leaving the programme predominantly in the hands of the governments..."¹¹⁰³

Although this strategy is common to all regions, it is flexible, responsive to varying regional demands. For example, the Caribbean Action Plan takes account of the area's special needs and thus addresses tourism, a vital regional industry, and because the area is less developed educational training and technical assistance are emphasized.¹¹⁰⁴ Despite variations among the regional plans, there are common elements in all, and if their implementation is closely coordinated the RSP will, it is hoped, eventually lead to a global ocean programme.¹¹⁰⁵

b. Priority Area "Environmental Law"

UNEP's efforts to develop environmental law take place on two levels, nationally and internationally. Nationally, UNEP assists

developing countries to adopt and strengthen environmental legislation and law enforcement.¹¹⁰⁶ Developed countries may also be aided by UNEP, for it, and other IGOs, compile information that help states conceive technical legislation.¹¹⁰⁷

At the international level UNEP acts similarly to IMO. It promotes the adoption of treaties it has helped formulate. It drafts principles and guidelines it hopes states will follow in conducting activities with potential transfrontier environmental effects. Guidelines also seek to elaborate the Principles of the Stockholm Declaration.¹¹⁰⁸

Regarding marine pollution, UNEP's environmental law work is concentrated in the RSP and it has here played the lead role in drafting and bringing into force a number of regional conventions and protocols. Such work is significant. Besides creating legal obligations for dozens of states in a number of regions, the marked uniformity of the instruments may push along the emergence of customary norms on international environmental law of the sea. And the RSP "performs the vitally important function of transforming the 'soft' law of the [LOSC] into 'hard,' enforceable law..."¹¹⁰⁹ In addition, there is an Ad Hoc Working Group of Experts on the Protection of the Marine Environment from Land-Based Sources. Its first session was in 1983 and it seeks to develop global guidelines.¹¹¹⁰ It is hoped the guidelines, once adopted, will strengthen action at the regional level and in the longer term provide a basis for a global convention on land-based sources that will use the experience gained in the development and implementation of the principles regionally.¹¹¹¹ UNEP has already produced guidelines for offshore mining conducted within the limits of national jurisdiction.¹¹¹² Of course, UNEP's efforts to develop guidelines proceeds in areas besides marine pollution, but such work is beyond the scope of the thesis.¹¹¹³

3. Conclusion

UNEP's RSP has been successful. It is considered the organisation's foremost achievement.¹¹¹⁴ The numerous legal agreements reached under the RSP's auspices are, however, but a part of this programme. The RSP has contributed to the development of national environmental legislation, greater scientific understanding of the sources and effects of marine pollution, improved scientific facilities and personnel in a number of countries, and to a more pronounced awareness of the dangers of marine pollution. Excluding the RSP, it is difficult to assess the

effect UNEP, this inadequately funded IGO,¹¹¹⁵ is having on the development of international environmental law. Its principles and guidelines probably have had, at best, only modest effect on state policies. They have not had the clearly ascertainable influence of IMO's codes. Though the work of these two IGOs is not readily comparable. IMO's codes are highly technical and apply to defined processes and circumstances. UNEP tackles broader, more difficult issues, such as land-based pollution, and it cannot expect to have the success of IMO. UNEP's formulation of principles and guidelines did not begin in earnest until the mid and late 1970s and there has been less time for its work to seep into national legislation. On the other hand, some of IMO's codes were developed in the early 1960s. What UNEP's work on principles and guidelines is probably doing is laying foundations for future advances in international law. But even without success today or tomorrow in its efforts to have these followed by states and accepted in treaties, the development of international law and other beneficial advances made in its RSP makes UNEP, globally and regionally, the foremost IGO in the effort to preserve the marine environment.

D. The International Sea-Bed Authority

1. Mandate and Powers

The LOSC says seabed resources beyond national jurisdiction belong to mankind (Art. 136). Such tracts comprise what is known as the Area (Art. 1). To administer activities in the Area, the ISBA is established (Arts. 156(1), 157(1)). "'[A]ctivities in the Area' means all activities of exploration for, and exploitation of, the resources of the Area" (Art. 1(1)(3)).

The ISBA's principle organs are the Assembly, Council, and Secretariat. A functional body, the Enterprise, is to carry out deepsea mining on behalf of the ISBA. The Assembly is empowered to promulgate rules relating to the exploration and exploitation of the Area (Art. 160(2)). Rules protecting the marine environment from deepsea mining are substantive and all substantive decisions before the Assembly are to be taken by two-thirds vote (Art. 159(8)).

A subsidiary body of the Council is the Legal and Technical Commission (Art. 163(1)). The Commission's broad mandate embraces numerous environmental matters. It is required to assess the environmental implications of activities in the Area, make recommendations to the Council on the protection of the marine environment that take into

views of recognised experts in the field, submit to the Council rules governing activities in the Area that take into account environmental factors, recommend necessary amendments to such rules, and recommend to the Council establishing a monitoring programme to ensure the rules are adequate (Art. 165(2)). Although rules come into force upon the Council's approval, this is provisional until the Assembly gives them final approval. The Legal and Technical Commission's environmental duties are a means by which the ISBA may carry out its obligation to protect the marine environment from activities in the Area, a duty clearly set forth in Articles 145 and 209.¹¹¹⁶

All LOSC parties are bound by the ISBA's environmental rules. There is not an opting out procedure nor the right to declare a reservation to a regulation; nor is a state that voted against a proposed rule in the Council or Assembly, or both, exempt from its application. Thus, the ISBA is the only global IGO with truly legislative powers. It also possesses certain limited tools for ensuring implementation. The Council may issue emergency orders for the suspension or adjustment of an operation to prevent serious harm to the marine environment (Art. 162(2)(w)). If the Sea-Bed Disputes Chamber, a disputes settlement body also set up by the LOSC, finds a state has grossly and persistently violated the deepsea mining provisions, that state may be suspended from the ISBA (Art. 185). A suspended state loses the rights and privileges of membership to the convention (Art. 185(1)). This includes the opportunity to partake in deepsea mining and receive royalties from the Enterprise. The Sea-Bed Disputes Chamber has jurisdiction over disputes involving the activities in the Area, including allegations a state has violated environmental rules (Art. 187).

In designing the ISBA as they have, states have given an IGO exceptional legislative power. Reasons for this include the fact that most states are technically and financially unable to mine the deepsea and thus accept controls on the activity. As mining has not begun, there are no entrenched interests making economic and social arguments that they be allowed to continue operation with only marginal oversight. Lastly, as mining in the Area will take place far from land, states probably see controls as less an infringement on sovereignty than otherwise.

2. Activities

Of course, the work of the ISBA has not begun as the LOSC is not in force. To ensure the ISBA enters into immediate and effective

operation upon entry into force of the LOSC, an UNCLOS III resolution established a Preparatory Commission (PREPCOM).¹¹¹⁷

PREPCOM held its first session in 1983 and has since formed four Special Commissions, each to deal with particular issues.¹¹¹⁸

Special Commission III is to prepare a seabed mining code with rules and procedures on deepsea mining in the Area.¹¹¹⁹ The code will include environmental provisions and these will apply provisionally pending formal adoption by the ISBA once it is in operation (Art. 308(4)).¹¹²⁰ Work on the code began in 1984¹¹²¹ but environmental provisions had not been adopted by the Commission's August 1985 meeting.¹¹²²

3. The Reciprocating States Regime

If the LOSC never comes into force there will, of course, be no such entity as the ISBA. But exploration for deepsea wealth will go on and it is likely sooner or later exploitation will take place. If a specific treaty is not concluded concerning this activity, will an IGO step in to regulate it? UNEP would be a candidate to do so, recognising its overall environmental mandate, and it has expressed an interest to be involved.¹¹²³ IMO is also well situated. Exploration and exploitation will be conducted from vessels and IMO has long dealt with the technical problems of pollution from ships. Since most countries capable of mining are Western States, they may have a predilection to accept IMO, if any IGO, as the regulating body. FAO, with its interest in protecting marine living resources, may seek and legitimately play a role as well.

It is possible that if the LOSC does not enter into force deep-sea mining will be solely controlled by national law. Indeed, as some countries able to mine, such as the United States and Britain, have no intention of accepting the convention, it is likely that much of the mining will be regulated only by national legislation.

These two countries, along with others, have for a number of reasons set up a Reciprocating States Regime,¹¹²⁴ "a network of rules laid down in unilateral municipal legislation co-ordinated internationally on a reciprocal basis."¹¹²⁵ The regime is set forth in a 1982 agreement between France, West Germany, Britain, and the United States.¹¹² The pact's primary objective "is to facilitate the identification and resolution of conflicts which may arise from the filing and processing of applications of [mining] authorizations made by Pre-Enactment Explorers..." (Art. 1).¹¹²⁷ It also contemplates a future arrangement whereby the parties would recognise one another's seabed mining licenses,

and in 1984 such an agreement, containing such a term, was signed by the four states along with Belgium, Italy, Japan, and the Netherlands.¹¹²⁸ The agreement also provides for regular consultation with respect to seabed mining. Although the agreement says nothing about the environment, a Memorandum on the Implementation of it does.¹¹²⁹ Its environmental provision states: "Each Party will take all necessary measures so that deep seabed operations under its control...(b) will include efforts to protect the quality of the environment and will not result in significant adverse effects on the environment...(f) are monitored for their effects on the environment" (Art. 3(1)). Apart from these requirements, environmental provisions are included in deepsea mining legislation adopted by France,¹¹³⁰ West Germany,¹¹³¹ Britain,¹¹³² and the United States.¹¹³³

4. Conclusion

If the LOSC comes into force, there is no question that the ISBA will be the lead IGO to control pollution from deepsea mining. Its mandate is unequivocal and even if its enforcement powers are marginal its legislative jurisdiction is significant. It has been argued that the ISBA may be able to exercise some jurisdiction over dumping on the high seas.¹¹³⁴ Those taking this position focus on the dumping of high-level nuclear wastes. It would seem, however, that because the ISBA's mandate is limited to "activities in the Area," which refers only to mining, that dumping, even if done above the Area and effecting the Area, is not an "activity in the Area" under the LOSC.¹¹³⁵

Several writers have given thought to the question whether the ISBA will effectively carry out its mandate, and doubts have been expressed. One, it has been argued that there may be a conflict of interest within the Legal and Technical Commission. The Commission is responsible for environmental protection but also has exploitation duties. "We have that problem in the United States, when the Department of Interior engages in both development functions and environmental functions, and the inevitable conflict of interest results in imprudent environmental management."¹¹³⁶ Two, when the community of states gathers to formulate environmental regulations what often results is a low common denominator, if not the lowest.¹¹³⁷ The ISBA may follow this trend. Three, it is unclear how enforcement of environmental rules by the ISBA "would turn out since international agencies do not usually enforce."¹¹³⁸ Also, the enforcement tools can only be used in cases of significant environmental damage. Four, the ISBA Assembly

and Council are unlikely to place environmental considerations over economic interests.¹¹³⁹ The royalties of deepsea mining have been sought for years and it is difficult to imagine states restricting mining or placing costly pollution controls on it for the sake of the vague concept of a healthy environment, particularly since that environment will be far from the territory of most states.

For these reasons it has even been suggested that, with regards to deepsea mining, the marine environment might benefit from the failure of the LOSC. Without it there may be less mining and that which will be undertaken will be by states likely to adopt stronger environmental rules than they would have implemented under the ISBA.¹¹⁴⁰ Of course, recognising how poorly states have in the past controlled polluting activities from their ships, the argument environmental controls over deepsea mining is best left to states can be only accepted with caution.¹¹⁴¹ This debate may see considerable resolution in the near future for it is likely PREPCOM will soon promulgate its mining code and its environmental provisions may then be assessed and compared with national legislation to determine which regime, the LOSC or that of the reciprocating states, is likely, at least on paper, to protect the oceans more.

E. The International Atomic Energy Agency

1. Mandate and Powers

IAEA's objective is to enhance the contribution of atomic energy to peace, health, and prosperity throughout the world and ensure the assistance it provides states is not used for military purposes.¹¹⁴² Nowhere does its constituting Statute refer to the need for environmental protection from nuclear processes but numerous provisions mention IAEA's responsibility for safety and health in the nuclear field.¹¹⁴³ Thus, one need not resort to an expansive reading of the Statute to find an environmental mandate for the agency.

IAEA is without even quasi-legislative authority, though it may make recommendations to its membership (Art. IV(D)). It is also to establish safety standards for the protection of health and the minimization of danger to life and property and see to it these standards are applied to its own operations as well as to national ones it has assisted (Art. III(A)(6)). Safety standards are not binding law, though states generally accept them because commonly the standards intrinsically demand respect and IAEA technical assistance is conditioned upon their acceptance.¹¹⁴⁴ And it may be argued the standards seep into

international law through their general adherence by states, for they "have proved to be a useful basis for international regulations and national legislation"¹¹⁴⁵ and "many of these have gained a large measure of international and national acceptance."¹¹⁴⁶ In this way IAEA contributes to the development of international law.

Although its Statute does not give IAEA a role in formulating and establishing conventions, it has been instrumental in developing several treaties, such as the 1962 Brussels Convention on the Liability of Operators of Nuclear Ships, the 1973 Vienna Convention on Civil Liability for Nuclear Damage, and the 1971 Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material.¹¹⁴⁷

2. Activities¹¹⁴⁸

IAEA has issued dozens of documents in its safety series. Most have little direct relation to marine pollution though a number do concern protection of the environment and the oceans in particular. In 1983 IAEA issued the document "Control of Radioactive Waste Disposal into the Marine Environment,"¹¹⁴⁹ an update of a 1961 safety bulletin on the same subject.¹¹⁵⁰ This sets forth the environmental considerations a state needs to consider when disposing of low level radioactive wastes either as effluent into coastal waters or as packaged waste into the deep sea. Other relevant documents in the safety series include "Safety Considerations in the Use of Ports and Approaches by Nuclear Merchant Ships" and "Disposal of Radioactive Wastes into Rivers, Lakes and Estuaries."¹¹⁵¹

IAEA has promoted environmental protection in its Waste Management Programme.¹¹⁵² The objective of which is to assist national and international programmes "in protecting man and his environment from all hazards arising from the management of radioactive wastes and effluents."¹¹⁵³ The Agency provides information and technical and regulatory assistance within the programme's three main components: handling and treatment of radioactive waste, which concentrates on high level and alpha-bearing wastes and on decommissioning nuclear facilities; a comprehensive research programme on underground disposal of radioactive waste; and the environmental aspects of nuclear energy.¹¹⁵⁴ Information in the Waste Management Programme has been disseminated in symposia and seminar proceedings (26 volumes), the Technical Reports Series (40 reports), the Safety Series (20 documents), as IAEA-TECHDOCS (22 reports), and as Waste Management Abstracts (14 issues).¹¹⁵⁵

Part of IAEA's modest research programme is the International

Laboratory of Marine Radioactivity (ILMR).¹¹⁵⁶ ILMR exists to study the occurrence and behaviour of radioactive substances and other forms of pollution in the marine environment, enhance calibration and standardization of methodology and interlaboratory comparisons in the study of marine environmental problems, and coordinate research and provide advice and training.¹¹⁵⁷

IAEA's most important role in protecting the seas is its responsibility under the LDC to define high level radioactive wastes unsuitable for ocean dumping and make recommendations on dumping radioactive wastes that are not high level.¹¹⁵⁸ The Agency adopted provisional recommendations and a provisional definition in 1975.¹¹⁵⁹ A revised definition and revised recommendations were adopted in 1978 and have been operative under the LDC since 1979.¹¹⁶⁰ The definition and recommendations have been kept under review and will be revised in 1985.¹¹⁶¹

The recommendations "describe the requirements regarding site selection, site-specific assessments and monitoring, packaging and operational control of dumping to be followed by national authorities when granting a special permit for dumping of radioactive waste."¹¹⁶² IAEA recommended the parties to the Barcelona Convention adopt the 1978 definition and recommendations for use in that convention's dumping protocol.¹¹⁶³ OECD has adopted them.¹¹⁶⁴

On this work, IAEA's most important involving the seas, the first thing to note is that the LDC has been in force since 1976 and IAEA has yet to supply a definitive definition of high level wastes unsuitable for dumping. In addition, the definition may not prevent the dumping of any radioactive wastes the nuclear industry wishes to dump.¹¹⁶⁵ The 1975 provisional definition begins by setting limits on three kinds of radioactive wastes. For example, alpha-bearing wastes of over ten curies per ton of waste are unsuitable for dumping, but the definition ends by stating that its "activity concentrations shall be averaged over gross mass not exceeding 100 tons."

Thus, a permitting agency may countenance the ocean dumping of 10 tons of wastes having an activity concentration of 100 curies per ton (i.e., ten times "hotter" than the numerical standard), so long as it is combined with 90 tons of nonradioactive matter. If there was doubt about this interpretation, it was later dispelled. Certain delegations to an IAEA-sponsored meeting of experts in February 1978 agreed to lower the standard under discussion to only one curie per ton - provided that they be permitted to average that activity concentration over a gross mass not exceeding 1,000 tons!¹¹⁶⁶

Indeed, the revised definition lowers the standard to one curie per ton and raises to 1,000 tons the gross mass over which the waste may be averaged.

There are, furthermore, disturbing elements in the bases of IAEA's definition. One, the definition is based on the "limiting capacity of the deep sea,"¹¹⁶⁷ but this capacity is based on an assessment of the northeast Atlantic, a model that may not be suitable for other ocean areas.¹¹⁶⁸ Two, IAEA has quantified acceptable radiation doses to which a human can be exposed.¹¹⁶⁹ This anthropocentric quantification fails to account for the hazards the marine environment may suffer from nuclear waste dumping. Three, the definition concentrates on the danger posed by each canister of waste to be dumped, but when dealing with highly persistent toxic materials it would be more intelligent to look at the ocean's capacity to assimilate the aggregate amount of such wastes dumped.¹¹⁷⁰ Four, the definition says it "is based on an assumed upper limit to the dumping rate of 100,000 tons per year at any one site." But this is without regard to one site's proximity to another.¹¹⁷¹

In 1977 a meeting of IAEA consultants concluded there were no high level radioactive wastes intrinsically unsuitable for dumping.¹¹⁷² At the 1978 LDC Consultative Meeting a statement of the IAEA observer implies the Agency might agree with this view.¹¹⁷³

In sum, an environmentalist might not view IAEA as the brightest star of IGOs concerned with marine pollution. There are even "those who believe that the IAEA has an institutional bias in favor of ocean dumping of radioactive wastes and does not want...[the LDC] to stand in the way of the proliferation of nuclear technology."¹¹⁷⁴

IAEA, unlike most of the IGOs studied in this thesis, is not concerned with the many contaminants that pollute the seas; nor is it, like some IGOs, concerned only with one source of marine pollution. Only radioactive wastes are the Agency's concern, no matter how they reach the marine environment. Because of the LDC, however, IAEA directs much of its environmental work to the regulation of radioactive waste dumping. Unfortunately, the manner in which it has carried out its pivotal role has not been as effective as it might be.

F. UNESCO and its Intergovernmental Oceanographic Commission

1. Mandate and Powers

The purpose of UNESCO is to promote education, science, and

culture throughout the world. Knowledge of the ocean requires promotion because of oceanography's novelty and the explosion of complex ocean management issues. UNESCO established a Division of Marine Sciences (originally the Office of Oceanography) to address the ocean aspects of its mandate. The Division's major responsibilities are in the field of training, education, and technical assistance with the goal of strengthening marine institutions and research in UNESCO member states.¹¹⁷⁵

A second ocean body, and one far more important for thesis purposes, is the IOC. IOC's 1970 Revised Statute says the Commission is to promote, in collaboration with other IGOs, international scientific investigations of the oceans with a view to learning more about its nature and resources.¹¹⁷⁶ It is to define problems in oceanic research that demand international cooperative action and then develop, recommend, and coordinate international scientific investigations and promote the distribution of research results (Art. 2(a)(b)(e)). IOC is also to work with other IGOs and may make recommendations to them (Art. 2(c)(d)). The Commission does not have rule-making or legislative powers.

IOC, capable of dealing with all aspects of marine science research and related technical aid, has been referred to by the United Nations General Assembly as the focal point for marine sciences in the United Nations system.¹¹⁷⁷ It might be more effective were it autonomous, something it is not, having been constituted within UNESCO. As a semi-independent IGO it is an anomaly. Although it has its own member states, staff, officers, and statutes, and can generally decide its own course of action, it is bound to follow many of UNESCO's administrative rules. Final selection of its Secretary is by UNESCO's Director-General (Art. 9(2)) and UNESCO essentially controls its budget (Art. 10(2)). Because of such structural weaknesses, the future of IOC has been much discussed within and outside of the Commission.¹¹⁷⁸ Fundamental changes, however, are unlikely.

2. Activities

IOC has three main areas of activities. Ocean services involves organising knowledge about the seas and putting it at the public's disposal.¹¹⁷⁹ The training, education, and mutual assistance programme is similar to the work of UNESCO's Division of Marine Sciences and seeks to reach the goal where all IOC members are able to adequately participate in IOC's activities.¹¹⁸⁰ Ocean science is IOC's main activity and involves promotion and coordination of cooperative investigations.¹¹⁸¹

Some of the investigations IOC has initiated, organised, and implemented include the International Co-operative Investigation of the Tropical Atlantic (1963-1964) and the Co-operative Investigation of the Caribbean and Adjacent Region (1967-1976).¹¹⁸²

For these programmes IOC specified an ocean area or phenomenon requiring study and coordinated its investigation. These investigations emphasized basic scientific research. However, the principle framework for IOC's present scientific activity, the Long-Term and Expanded Programme of Oceanic Exploration and Research (LEPOR), marks a new approach.¹¹⁸³ LEPOR does not concentrate on a single area or phenomenon. Rather, it leaves the initiative for action to individual scientists, institutions, and states, who are also responsible for needed coordination. What IOC does is define criteria for establishing priority areas of study within LEPOR and assist implementation.¹¹⁸⁴ IOC also helps distribute the knowledge gained and identify areas where more is needed.¹¹⁸⁵ LEPOR's purpose is to increase knowledge of the ocean and the processes operating in or affecting the marine environment "with the goal of enhanced utilization of the ocean and its resources..."¹¹⁸⁶ LEPOR, which is to last several decades, is thus more directed at applied rather than pure scientific research, representing the new influence of developing states demanding more immediate and practical benefits from IOC. This influence also means IOC pays considerably more attention today to technical assistance,¹¹⁸⁷ a practice detrimentally affecting IOC's effectiveness as a research organisation.¹¹⁸⁸ Consequently, countries with advanced marine research capabilities have found IOC's usefulness decreasing.¹¹⁸⁹

Marine pollution is one of LEPOR's primary areas.¹¹⁹⁰ The marine pollution segment is the Global Investigation of Pollution in the Marine Environment (GIPME), a comprehensive plan to provide "an international-framework within which national and regional programmes on various aspects of marine pollution may be co-ordinated to contribute to an understanding of global pollution problems."¹¹⁹¹ The ultimate objective of GIPME, which is IOC's main marine pollution programme,¹¹⁹² is to provide a sound scientific basis for assessing and regulating marine pollution.¹¹⁹³ Its four components include "the development of sampling and analytical methods, the construction of mass balances of pollutants in the ocean, the assessment of pollution effects, and the strategy to ensure abatement or regulatory action."¹¹⁹⁴ Results of GIPME projects should allow IOC to regularly review the state of the

marine environment and forecast long-term trends.¹¹⁹⁵

Since IOC does not have law-making or law-promoting powers, its role in marine pollution must be justified by its scientific work. But its programme here, GIPME, is dependent on the willingness of states to carry it out, yet states have done "very little" to implement it.¹¹⁹⁶

G. Food and Agricultural Organisation

1. Mandate and Powers

FAO's objective is to enhance food production, fight malnutrition, and improve agriculture.¹¹⁹⁷ "Agriculture" is defined to include fisheries and FAO aims to ensure the maximum sustainable yield of fisheries is maintained throughout the world and fisheries everywhere are developed to optimize their food potential.¹¹⁹⁸ Much of this work is overseen by FAO's Committee on Fisheries (COFI), created within the organisation's Department of Fisheries.¹¹⁹⁹ This Department also has a Fishery Resource and Environment Division that is concerned with the environmental effects of human activities and long term environmental changes on fisheries.¹²⁰⁰ FAO's Constitution says one of FAO's functions is "generally to take all necessary and appropriate action to implement the purposes of the Organisation as set forth in the Preamble," (Art. I(3)(c)). As marine pollution can diminish fisheries, FAO may properly address this subject, and environmental harm is something FAO recognised more than a decade ago as particularly relevant to its work.¹²⁰¹

FAO may make recommendations to its members (Art. IV) and its plenary body, the Conference, may submit to its members conventions and agreements concerning food and agriculture (Art. XIV(1)). The Council may submit to members agreements that apply to a particular geographical area (Art. XIV(2)(a)). The organisation lacks legislative competence.

2. Activities

Even though FAO's activities are much broader than solely marine, fisheries have a prominent place in its work because of the importance of fish as a food source. Fish provides about 20% of the world's supply of animal protein and for many people in developing countries it is a "vital" part of the diet and its demand is expected to grow dramatically in the 1980's.¹²⁰²

To enhance fisheries as a food source, FAO devotes considerable time to management issues. As good management is dependent on

information, FAO engages in a multitude of studies and research projects and produces many useful reports. For example, it has studied fishery legislation implementing the 200 mile EEZ and publishes a Yearbook of Fishery Statistics. Good management cannot neglect the effect of pollution on fish and fish habitats and FAO studies this subject.¹²⁰³ Its Advisory Committee of Experts on Marine Resource Research (ACMRR) has established working groups on Ecological Indices, Biological Effects of Pollutants, Pollution Research, and River Inputs to Ocean Systems.¹²⁰⁴ In addition, it has provided extensive information on the extent and effects of marine pollution on common fisheries to COFI's six regional bodies which in turn use the information in their work developing and managing fisheries.¹²⁰⁵ ACMRR has also aided IOC in planning and implementing aspects of IOC's LEPOR and GIPME programmes.

The EEZ Programme, established in 1979, may be FAO's most important fisheries project. It aims to assist coastal states, particularly developing ones, in developing and managing fisheries in their EEZs.¹²⁰⁶ Although protection of the marine environment is not a primary concern in the programme, some efforts to control environmental degradation are involved.¹²⁰⁷

A specific example of FAO's research role is the comprehensive review of marine pollution in the Mediterranean Sea it produced in 1972.¹²⁰⁸ In the pilot phase of MED POL FAO also produced baseline studies, monitored various chemicals in marine organisms, and researched the effects of pollutants on marine communities.¹²⁰⁹ It also has been actively involved in the marine pollution aspects in other regions of UNEP's RSP.¹²¹⁰

FAO's role in the organisational response to marine pollution has largely been one of scientific research and technical assistance on managing fisheries. Far more limited has been its role in directly developing international law to protect the marine environment.¹²¹¹ Yet it did take the initiative that eventually led to the Barcelona Convention¹²¹² and does contribute to developing legal components of Action Plans in UNEP's RSP.¹²¹³ Although FAO has engaged in standard setting,¹²¹⁴ marine pollution has been of little concern in this regard.

H. World Health Organisation

1. Mandate and Powers

WHO's Constitution says the organisation's objectives "shall

be the attainment by all peoples of the highest possible level of health."¹²¹⁵ To achieve this goal Article 2 sets forth 22 wide-ranging functions, including directing and coordinating international health work, providing governments with technical services and assistance, conducting research, and promoting the improvement of environmental hygiene.

WHO's relevance to marine pollution is readily apparent. In some cases man has contaminated marine areas and living resources to such a degree that his health has been harmed.¹²¹⁶ Two kinds of exposure to marine pollutants that affect man are consumption of contaminated seafood and direct contact with pollutants through swimming.

In order to achieve its objectives, WHO is empowered to engage in research and studies, but its Constitution also provides it with three methods by which it may seek to regulate its members.¹²¹⁷ One, its Assembly has "authority to adopt conventions or agreements with respect to any matter within the competence of the Organisation" (Art. 19). The Article provides that a two-thirds vote is required for adoption of conventions or agreements, which come into force for a member upon its ratification. Members are to act on the convention or agreement within 18 months of its adoption and those not accepting the instrument must explain why. A state accepting the instrument must make an annual report on implementation (Arts. 14, 20, 62). Two, the Assembly is given quasi-legislative powers. Article 21 authorizes it to adopt regulations concerning (a) procedures to prevent the international spread of disease; (b) nomenclatures on diseases, causes of death, and public health practices; (c) standards on diagnostic procedures for international use; (d) standards on the safety, purity and potency of biological, pharmaceutical, and similar products moving in international commerce; and (e) advertising and labelling of biological, pharmaceutical, and similar products moving in international commerce. These regulations bind all members that do not reject them within a certain time (Art. 22). Reservations may be made to acceptance of the regulations, furthering diluting their legal force.¹²¹⁸ Areas where WHO has quasi-legislative authority have little to do with marine pollution. Three, the Assembly may adopt recommendations for consideration by its members and members are to annually report on any action taken on the recommendations (Arts. 23, 62). The recommendations do not, however, have any legal force.

2. Activities

WHO's Executive Board has stated: "While health policies and programmes alone cannot ensure a safe environment, health aspects have

to be given a prominent place in all considerations of the environment."¹²¹⁹ Although WHO recognises UNEP as the focal point in solving environmental problems, it believes it "has an important role to play."¹²²⁰ Indeed, WHO has been active in the environmental field.

The bulk of WHO's environmental activities are not directly concerned with the marine environment. Yet because the seas receive waters from rivers, lakes, and direct runoff, and because such land-based sources bring most pollutants to the sea, many WHO programmes indirectly relate to marine pollution. Some of these programmes include the International Programme on Chemical Safety,¹²²¹ assistance to states in developing national environmental legislation,¹²²² an air quality monitoring project,¹²²³ and activities to improve water sanitation.¹²²⁴ A more direct involvement by WHO in marine pollution is its role in UNEP's RSP, to which it provides information on human health aspects of marine pollution and coordinates development of training materials for a projected series of workshops on assessing the environmental impact of coastal area development.¹²²⁵ WHO has also developed health criteria for the quality of recreational waters, with particular reference to coastal waters and beaches.¹²²⁶

WHO is divided into six regional divisions and the European Office, WHO/EURO, has closely collaborated in developing and implementing UNEP's Mediterranean Action Plan. Its work is illustrative of what other regional WHO offices have done in the Action Plans in their areas. WHO/EURO coordinated the Mediterranean Action Plan's project on coastal water quality in the pilot phase of MED POL¹²²⁷ and now plays a significant role in MED POL Phase II. In Phase II's monitoring component, WHO/EURO's responsibilities have included studying pollution sources and the influence of polluted coastal waters on human health.¹²²⁸ More specifically, it has sought to develop sampling and analytical techniques for pollution monitoring and research, reporting formats for land-based pollution, scientific rationale for environmental quality criteria, epidemiological studies related to water quality, and guidelines and criteria for application of the protocol on land-based sources.¹²²⁹

Besides other scientific work in MED POL,¹²³⁰ and participation in the Action Plan's Blue Plan and Priority Action Programme,¹²³¹ in the mid-1970s a WHO survey of the national legislation of Mediterranean states laid the groundwork for the Athens Protocol on Land-Based Sources.¹²³² WHO/EURO and UNEP have published a comprehensive text that will form

the basis for the development of a model code of practice for the management of wastes from coastal sources.¹²³³ As with the parent body, WHO/EURO has undertaken a number of activities with an indirect bearing on marine pollution.¹²³⁴

Like FAO, WHO's marine pollution work is far more grounded in scientific studies and technical advice than in adopting conventions, promulgating codes, and issuing regulatory acts. This is despite quasi-legislative tools. Article 19, which allows for the adoption of conventions, has "[i]n practice...never been applied."¹²³⁵ Its rule-making ability under Articles 21 and 22 has seldom been exercised¹²³⁶ and never used for a specific environmental issue.¹²³⁷ WHO generally prefers to set standards by nonbinding recommendation.¹²³⁸

I. World Meteorological Organisation

1. Mandate and Powers

There is, though perhaps surprisingly, a relation between meteorology and marine pollution.

Many atmospheric processes are...inextricably related to processes and phenomenon the study of which falls within...hydrology and oceanography. The WMO has therefore certain responsibilities in these fields also, and as a result its interest in the human environment is somewhat wider than its title may suggest.¹²³⁹

WMO's Constitution sets forth its purposes, and in two of these may be found a mandate to address marine environmental problems. WMO is "[t]o facilitate world-wide co-operation in the establishment of networks of stations for making meteorological observations as well as hydrological and other geophysical observations related to meteorology..."¹²⁴⁰ It is also "[t]o further the application of meteorology to...water problems, agriculture and other human activities" (Art. 2(d)). WMO's general responsibilities are to coordinate, standardize, and improve meteorological services throughout the world.¹²⁴¹

WMO's plenary body is the Congress. The kind of decisions it may make, and their legal effects, is complex. Congress may make recommendations (Art. 8(b)). These are without legal effect. It may also adopt, by two-thirds vote, technical regulations on various meteorological practices and procedures (Art. 8(d)). Technical regulations are not merely recommendatory,¹²⁴² for Article 9 says:

- (a) All members shall do their utmost to implement the decisions of Congress;
- (b) If, however, any Member finds it impracticable to give effect to some requirement in a technical resolution adopted

by Congress, such Member shall inform the Secretary-General... whether its inability to give effect to it is provisional or final, and state its reasons therefor.

To clarify Article 9 and the legal effect of technical regulations, in 1955 Congress adopted a clarifying resolution.¹²⁴³ It says technical regulations may be either a recommendation or a standard. The resolution says it is "desirable" for states to implement recommendations and they must, in compliance with Article 9(a), do their "utmost" to do so. Thus, this kind of WMO recommendation has more legal effect than typical IGO recommendations, which may usually be completely ignored. State obligations regarding a standard are stricter. The 1955 resolution says it is "necessary" for states to implement standards and both (a) and (b) of Article 9 apply. Thus, a state must do its "utmost" to implement a standard and must if it is practicable to do so. A state not implementing a standard must notify the Secretary-General of the specific nature and extent of non-compliance and its reasons.

While decisions of WMO's Congress are not binding, the obligations arising upon adoption of standards and certain recommendations are not inconsequential. WMO has quasi-legislative power.¹²⁴⁴ But it must be noted that the areas in which this power may be exercised, meteorological practices, is of little relevance to controlling marine pollution.

2. Activities

WMO's environmental interest concentrates on air pollution. It has recognised the "pressing need for resource conservation and the protection of the atmosphere, land and oceanic environment" and asserts this need requires contributions from meteorology.¹²⁴⁵ "Knowledge of the mechanics of long-range transport of pollutants in the atmosphere is necessary for the successful prediction of environmental impacts. This is particularly pertinent in the case of acid rains..."¹²⁴⁶ Such knowledge is also necessary for the effective drafting and application of international agreements controlling air pollution as a source of ocean contamination. WMO believes it has a major contribution to make in understanding the transfer processes of air pollutants.¹²⁴⁷

In the late 1970s WMO led a Working Group on the Interchange of Pollutants between the Atmosphere and the Oceans¹²⁴⁸ and its concern with air pollution as a source of marine pollution is illustrated in some of the programmes it formulated in 1983 as part of its strategy for 1984-1993. These include the development of a comprehensive environmental monitoring service and activities within the International

Global Oceanic Services System (IGOSS).¹²⁴⁹ IG OSS, which includes marine pollution monitoring, is a WMO/IOC project and part of IOC's GIPME.¹²⁵⁰ WMO is valuable in such a project because it has a "well-established international system for monitoring [and] predicting environmental conditions at the sea-air interface..."¹²⁵¹ This system can contribute visual observations of contaminants such as oil slicks, collect surface samples, and monitor air pollution over the oceans.¹²⁵² WMO also monitors marine pollution in its Executive Committee's Panel on Meteorological Aspects of Ocean Affairs.¹²⁵³

As for developing international environmental law of the sea, WMO's role is subordinate to that of most IGOs. It does, however, contribute to the development of a scientifically sound legal regime for the control of atmospheric sources of marine pollution.

J. Conclusion

The work of global IGOs is an important part of the world community's response to marine pollution. They have carried out responsibilities to develop marine pollution control conventions. They have drafted conventions and influenced their adoption. They have engaged in a range of law-promoting actions. Though much of such work fails, significant successes have occurred. Most IGOs have contributed to improving scientific capabilities in less developed countries; some to the formulation of national environmental laws. Knowledge of the sources and effects of marine pollution has been advanced by IGOs through their own research programmes and by encouraging and coordinating national investigations. They have helped make known the values of the seas and the threats confronting this resource.

The prominent function IGOs play in the response to marine pollution is reflected by Principle 25 of the Stockholm Declaration, calling on states to ensure IGOs "play a co-ordinated, efficient and dynamic role for the protection...of the environment."¹²⁵⁴ And the LOSC contains many references to IGOs and there is widespread opinion the treaty will enhance the role of IGOs.¹²⁵⁵ This is particularly true with regard to the LOSC's marine environment protection provisions, Articles 207-237, which are replete with general references to IGOs. The provisions look to IGOs for regulatory action, pollution monitoring, information collection and dissemination, and development assistance. Even without the LOSC, IGOs would continue to increasingly contribute to man's response to marine pollution including the

development of the international law of the sea.¹²⁵⁶

This chapter reveals that under the broadly written constituent instruments of the eight organisations, all have a mandate to protect the marine environment. No general conclusions, however, can be drawn about their legislative powers. IOC, IAEA, and UNEP have no law-making powers. ISBA has legislative authority and the rest have degrees of quasi-legislative competence. But of these, only IMO is significantly involved in directly developing law protective of the marine environment. The quasi-legislative powers of FAO, WHO, and WMO are either not exercised or do not reach marine polluting activities.

As for law-promoting activities, UNEP with its Regional Seas Programme, is deeply and successfully involved, as has been IMO with its adoption of guides and standards that often attract wide respect. Those organisations without law-making and promoting activities or powers -- IOC, WHO, FAO, WMO, IAEA -- concentrate on a range of research and information work.

Despite this great mix of mandates and activities regarding marine pollution, there is not necessarily disorder among them.

A study by Messrs. Kingham and McRae sought to determine which IGO has lead responsibility to implement those LOSC provisions that call on the "competent" IGO to develop rules to control each source of marine pollution.¹²⁵⁷ The criteria Kingham and McRae used for designating an IGO as the lead one for a specific provision and source included its constitutional mandate, existing activities, and general ability to undertake the tasks set forth in the LOSC.¹²⁵⁸ It may be a surprise the study found few areas "in which major jurisdictional conflict is likely to occur between organisations asserting competence in respect of particular provisions of the [LOSC]."¹²⁵⁹

This chapter's review of the IGOs confirms this idea. Regarding law-making and law-promoting, IMO is clearly the lead IGO for ship pollution. The UNCLOS III Secretariat assured IMO the Conference recognised IMO's competence here.¹²⁶⁰ In addition, IMO is the appropriate IGO, along with the LDC's Consultative Meeting, to deal with dumping.¹²⁶¹ ISBA will be the lead IGO for pollution from deepsea mining. If the LOSC does not come into force, IMO, because of its expertise in pollution from ships and its work with dumping, may be the lead organisation, though UNEP has much to contribute. For land-based pollution, air pollution, and pollution from offshore activities, UNEP is the lead

law-making and law-promoting IGO.¹²⁶²

These conclusions are illustrated in the following table that shows the IGO with lead responsibility to develop law to control each source of marine pollution. The table also lists IGOs with supporting roles.

RESPONSIBILITIES FOR DEVELOPING LAW

<u>Pollution Source</u>	<u>Responsible IGO</u>	<u>Supporting IGO</u>
Ship	IMO	UNEP
Land-based	UNEP	
Atmospheric	UNEP	
Dumping	IMO, LDC Consult. Meeting	UNEP, IAEA
Offshore	UNEP	IMO
Deepsea	ISBA	UNEP, IMO

In sum, when considering which IGOs have primary responsibility for regulating the sources of marine pollution, the divisions, based on constitutions and activities, are fairly clear. Of course, regulation is but a small part of the organisational network's response to marine pollution. There is also the vast research and information work, but even here there is some order.

ISBA has the responsibility to assess environmental implications of deepsea mining and to monitor the effectiveness of mining rules. UNEP, which has a broad mandate to assess the environment, may have something to contribute. UNEP's primary means of carrying out research is as coordinator of its Regional Seas Programme. The RSP relies on other IGOs and national institutions to do the actual work. Provided the coordination is effective, there should be little overlap in the research and information activities of the RSP's regional action plans.

As for the research and information work of other IGOs, WMO's environmental work concentrates on studying the transfer processes of air pollutants from land to sea and monitoring air pollution. FAO's environmental work concerns the effects of pollutants on living resources. As most of man's fishing is near shore, FAO will be involved with those sources of pollution effecting coastal areas, that is, land-based pollution and dumping and, to a degree, offshore mining incidents and ship pollution. Though other IGOs are also concerned with each of these four sources, FAO is the only one concentrating on their effect on fish. WHO

directs its research and information work on how man is effected by pollution near shore. While this work, like FAO's, centres on land-based pollution, WHO approaches such pollution from a different angle -- human health. IAEA is concerned with radioactive waste and it reaches the seas by dumping and directly from land. IOC has a broad science mandate that includes marine pollution. But IOC's role is as a coordinator of the activities of scientists, institutions, and states. IMO's marine pollution research and information activities seem less involved than those of other IGOs, being concentrated on studying means to control ship pollution.

These conclusions on research and information responsibilities are also illustrated by a table. Here, the primary IGOs remain the same as those in the table on responsibilities for developing law, but the supporting bodies increase markedly because most global IGOs are more concerned with this aspect of marine pollution work than with rule-making.

RESPONSIBILITIES FOR RESEARCH AND INFORMATION

<u>Pollution Source</u>	<u>Responsible IGO</u>	<u>Supporting IGOs</u>
Ship	IMO	UNEP, IOC, WHO, FAO
Land-based	UNEP	FAO, WHO, IOC, IAEA
Atmospheric	UNEP	WMO, WHO, IOC
Dumping	IMO, LDC Consult. Meeting	UNEP, WHO, FAO, IOC, IAEA
Offshore	UNEP	IMO, WHO, FAO, IOC
Deepsea	ISBA	UNEP, IMO, IOC

Although eight global IGOs operate in the area of marine pollution, their responsibilities and activities are fairly distinct. This is not, however, to say there are never jurisdictional squabbles or overlapping activities. And there also remains another part of the organisational network to consider, the regional European IGOs. As there are six of these with relevance, it is possible considerable coordination problems might arise.

CHAPTER NINE

THE EUROPEAN IGOs: MARINE POLLUTION ACTIVITIES AND CONSTITUTIONAL CAPABILITIES TO DEVELOP INTERNATIONAL ENVIRONMENTAL LAW

A. Introduction

The European IGOs discussed in this chapter are the EEC, the Council of Europe, OECD, the ECE, Nordic Cooperation, and NATO's Committee on the Challenges of Modern Society (CCMS). The Oslo, Paris, Helsinki, and Barcelona Conventions established IGOs as implementing institutions, and though these bodies are regional, their activities are not reviewed here because they were discussed in Chapter Six.

As with the global IGOs, two aspects of the European IGOs are reviewed: their mandate and powers in the environmental field and their marine pollution activities. These activities include law-making and law-promoting and research and information. Reasons for undertaking the review are also the same. It will determine how a selected part of the organisational network at the regional level is responding to marine pollution, what role these IGOs have in developing international environmental law of the sea, and gain an understanding of the coordination issue.

B. The European Economic Community^{1263a}

1. Mandate and Powers

The EEC seeks to establish a common market and harmonize its member's economic policies, all with the purpose of promoting stability, a better standard of living, and close relations.^{1263b} None of the ways the EEC Treaty specifies how the organisation is to carry out its functions refer to the environment (Art. 3). Yet the EEC has forcefully entered the field. Initially, questions were posed about the EEC's mandate in this area.^{1263c} But these are seldom heard today and there are several treaty provisions upon which the mandate is based. The most important says that if the EEC Treaty does not provide the powers needed to attain Community objectives, "the Council shall, acting unanimously on a proposal from the Commission and after consulting the Assembly, take the appropriate steps" (Art. 235). Commentators and EEC practice interpret this article broadly,¹²⁶⁴ particularly since a 1972 summit when EEC states declared that economic expansion should include giving particular attention to protecting the environment.¹²⁶⁵

Article 100 of the treaty has also been relied on¹²⁶⁶ and Article 84(2) and a clause in the Preamble offer additional support for an environmental mandate.¹²⁶⁷ Each of these articles requires the Council to act with unanimity. Furthermore, it has been the practice of the Council to use unanimity wherever vital interests of a state are at stake.¹²⁶⁸ The unanimity requirement means the EEC is without quasi-legislative competence in environmental matters.

Environmental activities are carried out by the EEC's Council, Commission, Parliament, and, in a sense, its Court of Justice. The Commission consists of fourteen individuals who act independent of state loyalties (Art. 10). The Commission has the exclusive right to propose legislation, negotiate international agreements, and has a duty to ensure observance of Community law. When compared to the legislative competence of the Council, however, the Commission's is limited, typically to secondary matters such as administration.¹²⁶⁹

The Council, the principle legislative organ, is composed of a delegate from each member state (Art. 146(2)). It usually meets at the Foreign Minister level, though specialized meetings are held with the Ministers of a particular sector, such as the environment. The Council may adopt Regulations that are binding in their entirety and directly applicable to all member states; issue Directives that are binding as to the result to be achieved by each state to which they are addressed; take Decisions that are binding in their entirety upon those to whom they are addressed; and make Recommendations and deliver Opinions that are not binding (Art. 189). The EEC thus appears to have extensive legislative power. Furthermore, EEC legislation is enforceable in the courts of the members and prevails over conflicting national law.¹²⁷⁰ Implementation and enforcement, however, are left to the members (Art. 192). Though if a state fails to observe EEC law the Commission shall deliver an opinion and may take the matter before the Court of Justice (Art. 169).¹²⁷¹

The EEC Assembly, elected by popular vote, has no legislative powers. While empowered to dismiss the Commission, it has never done so. It is to be consulted on legislative proposals and may call on the Commission to explain its actions. The Assembly has a significant role in setting the EEC budget (Art. 204) and this has enlarged its influence in EEC affairs.¹²⁷²

2. Activities

A number of factors inhibit the EEC's environmental work. A disadvantage lies in the slow pace by which it reaches decisions, parti-

cularly in the Council.¹²⁷³ This is due, in part, to the different institutional and administrative structures of member states and different philosophies in dealing with pollution.¹²⁷⁴ Nor is the Commission immune from a sluggish pace.¹²⁷⁵ The Directive on Environmental Impact Assessment went through 23 drafts in the Commission.¹²⁷⁶ Furthermore, the scope of the EEC's environmental work is all out of proportion with the staff size and money allotted to carry it out.¹²⁷⁷ Another problem is the unanimity requirement for almost all environmental decisions of the Council. Obtaining unanimity is difficult and has led to most adopted measures being of the lowest common denominator.¹²⁷⁸ In fact, the EEC's environmental work of the 1970s has been criticized by the Commission¹²⁷⁹ and implicitly by the Council.¹²⁸⁰

Nonetheless, the EEC has adopted many environmental acts, the full affect of which cannot be immediately determined. One environmentalist has said this legislative work "is second to none," though implementation is weak.¹²⁸¹ Another environmentalists says EEC Directives and other actions, when looked at as a whole, have provided "a greater covering of legislation than would have been the case otherwise."¹²⁸²

The EEC's first environment programme was adopted in 1975¹²⁸³ and the second in 1977.¹²⁸⁴ The Third Environmental Action Programme was adopted in 1982 for the 1982-1986 period.^{1284a} The Programme and Council Resolution approving it¹²⁸⁵ are the "key reference documents for the future."¹²⁸⁶

The third programme does not contain a detailed list of projects, nor does it emphasize pollution control. It is philosophical, setting forth a policy emphasizing that environmental protection is a key element in all Community socio-economic policies.¹²⁸⁷ Thus, environmental considerations must be included in the planning of all its work. This new stress implies a broader environmental role since the EEC will assess environmental ramifications of all its activities rather than viewing its pollution control work as self-contained. Even so, work on specific projects began under the earlier environmental programmes will continue, supplementing the new, broader environmental perspective.¹²⁸⁸

Air pollution, waste management, and protection of the EEC's seas will likely be high on the EEC's agenda during the next decade.¹²⁸⁹ The first two, particularly waste management, have a relation to healthy seas and specific activities for marine pollution appear to be a major part of the EEC's work.¹²⁹⁰ The Council Resolution approving the third

environmental programme says it is important Community actions be carried out in the Mediterranean region and in combating freshwater and marine pollution.¹²⁹¹ Other parts of the resolution, the programme itself, and the Commission say the EEC will be active in protecting the Mediterranean and North Sea.¹²⁹²

Well over a hundred legal instruments concerning the environment have been adopted by the EEC, many are binding Directives.¹²⁹³ The water Directives are most relevant for the thesis and fall into three categories: the "Dangerous Substances Directive," those setting quality objectives for water used for particular purposes, and those dealing with industrial processes that cause water pollution.¹²⁹⁴

The "Dangerous Substances Directive" seeks to control discharge of substances into the aquatic environment by aiming for the elimination of pollution caused by black list substances and reduction of pollution caused by other substances.¹²⁹⁵ The Directive is a framework, to be implemented by subsequent Directives and several have been adopted, including Directives on cadmium and mercury discharges.¹²⁹⁶

The second category of water Directives lay down quality objectives for water used for particular purposes, such as Surface Water, Bathing Water, and Shellfish.¹²⁹⁷ Five Directives have been adopted in this category and each has been implemented or is in the final stages of being so.¹²⁹⁸

The third category relates to certain industrial processes. Though the application of Directives to specific industries was envisaged, there is only one Directive of this type, on waste from the titanium dioxide industry.¹²⁹⁹

The EEC's marine pollution activities also involve scientific work.¹³⁰⁰ ECC has an important international role, represented by its participation, either as a contracting party or observer to the ODC, ECE Air Pollution Convention, Paris Convention of Land-Based Sources, Barcelona Convention, OILPOL Convention, MARPOL 73/78, and the 1976 Bonn Convention to protect the Rhine against chemical pollution.¹³⁰¹ It has signed the Barcelona Protocol on Protected Areas, UNEP's Regional Seas Convention for the Caribbean, and 1983 Bonn Agreement for cooperation in dealing with North Sea pollution by harmful substances,¹³⁰² as well as the LOSC. The EEC will use its influence to ensure plans agreed at the international level, such as those of UNEP, are implemented.¹³⁰³ The third environmental programme says environmental protection should be regarded as an integral part of the EEC's development

policy.¹³⁰⁴ The organisation is also capable of influencing environmental policies of its trading partners by requiring that imports meet anti-pollution standards and is able to help developing states absorb costs of better environmental policies.¹³⁰⁵

C. The Council of Europe

1. Mandate and Powers

The Council of Europe seeks to achieve a greater unity between its members for the purpose of safeguarding their common ideals and facilitating economic and social progress.¹³⁰⁶ To qualify for membership a state must ensure its citizens enjoy fundamental freedoms (Art. 3). "Human rights, individual freedoms and pluralistic democracy are the Council's raison d'être."¹³⁰⁷ The Council of Europe's Statute lacks a reference to the environment. Nonetheless, the Council has entered the field, but because of the broadness of the Council's purposes in promoting a political philosophy, it devotes little time and few resources to the environment.

The Committee of Ministers and Parliamentary Assembly are the Council of Europe's main organs. Governments are directly represented in the Committee of Ministers. Its purpose is to further the organisation's aim by concluding conventions or other agreements, adopting common policies, and making recommendations to member states (Art. 15). Any convention or agreement it adopts is only binding on a state ratifying it.¹³⁰⁸ The adoption of common policies is seldom realized.¹³⁰⁹ Its recommendations are non-binding and require unanimous vote (Art. 20(a)). The Committee of Ministers is thus without legislative powers, so too with the Parliamentary Assembly. Its membership is either elected by or appointed from the parliaments of member states. The Assembly, by two-thirds vote, may adopt recommendations directed to the Committee of Ministers (Arts. 22, 23(a), 29). It may also adopt non-binding resolutions.¹³¹⁰

Member governments attach "little importance" to the Assembly's work,¹³¹¹ and it may become "a well-meaning academic exercise whose fine words are written on the wind."¹³¹² For example, an Assembly report on action taken by European states to prevent coastal pollution comments that "'the many proposals and warnings addressed to governments by the Parliamentary Assembly...[have had] very limited success.'"¹³¹³ Another example is found in a report prepared for the Council of Europe on ship pollution. The author made seven suggestions of how the Council might

ensure the proper labelling of hazardous ship cargo. The first few words of each exhibit the frailty of the Council. They are: "Endeavour to promote...Exhort shipping companies to...Encourage central governments...Campaign in favour of...Encourage further research into...Study further...Make better known..."¹³¹⁴ Prior to the writing of the report, the Council sent regional authorities a questionnaire about coastal pollution. The response was disappointing¹³¹⁵ and the author wondered: "is it lack of faith in the Council of Europe's capacity to do something about this situation?"¹³¹⁶

Probably the best hope for effective environmental action by the Parliamentary Assembly is through the development in Parliamentarians of an appreciation of supranational interests that, upon return to their home parliaments, they may interject into national debates, policies, and law.

2. Activities

Most of the Council of Europe's work is spent on human rights and on social, educational, cultural, health, and legal affairs. Protecting the environment is not a paramount concern and marine pollution is of subsidiary concern in the environmental work.

Involved in environmental issues are these Council of Europe bodies: the European Committee for the Conservation of Nature and Natural Resources, the European Conference of Regional and Local Authorities, and the European Information Centre for Nature Conservation.¹³¹⁷ None of these devotes its work primarily or even significantly to marine pollution.

By 1981 the Council had adopted 108 treaties. None are directed specifically at marine pollution and only a few indirectly.¹³¹⁹ In 1974 it was said the significance of the Council's conventions "is not very impressive."¹³²⁰ This assessment is still valid.

The Council of Europe has sponsored conferences, undertaken studies, and produced reports on marine pollution problems.¹³²¹ But the work is not great.¹³²² Furthermore, it would appear by a 1982 review of twenty years of the Council's scientific studies in the environmental field that none have addressed marine pollution.¹³²³

The Council of Europe may be able to spur environmental action by member states through its sponsorship of regular meetings of ministers and authorities. Though the aim of the conferences is to work towards cooperation and harmonization of environment policies,¹³²⁴ they have hardly reached the latter goal. More realistically, the conference

enables environment ministers to discuss common problems, exchange experiences, and, it is hoped, develop guidelines for common policies. There have been four conferences thus far. The first three had little to do with marine pollution.¹³²⁵ The fourth, held in 1984, addressed conservation of coastal areas, river banks, and lake shores.¹³²⁶ Little seems to have been accomplished by it, except the adoption of innocuous, non-binding recommendations.¹³²⁷

The conference was a part of the Council's "Water's Edge" programme that concerns coasts, river banks, and lake shores. It is largely a public information campaign.¹³²⁸ Such work is probably well-suited for the Council, for perhaps its role in marine pollution is in arousing public awareness.¹³²⁹

D. The Organisation for Economic Cooperation and Development

1. Mandate and Powers

The aims of OECD, which includes the non-European countries Australia, Canada, Japan, New Zealand, and the United States, are to achieve high economic growth and employment, a rising standard of living, and expansion of world trade.¹³³⁰ Though the concerns of OECD are economic, it does address environmental issues. A mandate to do so may be found in several of the OECD aims and functions, such as the objective to promote efficient use of resources. Furthermore, differences in environmental laws affect trade between OECD states and may give rise to non-tariff barriers.¹³³¹

OECD functions through a Council, the decisionmaking organ composed of representatives of each state (Arts 6-7). A fourteen member Executive Committee, along with numerous other committees carry out functional work (Art. 9).

The OECD Council is able to take Decisions (Art. 5(a)). They are binding only upon ratification and adoption requires approval of all members.¹³³² The Council may also adopt non-binding Recommendations (Art. 5(b)).¹³³³ These also require unanimity.¹³³⁴ Typically, Recommendations include an obligation on states to inform OECD of their response to it.¹³³⁵ This, together with the rule that the position taken vis-a-vis a recommendation obliges a member to take a non-contradictory position in other IGOs, distinguishes Recommendations from mere suggestions.¹³³⁶ In fact, Recommendations "frequently have considerable political weight."¹³³⁷ Even so, the need for ratification and unanimity mean OECD is without even quasi-legislative power.

The limited law-making powers OECD has are little used. The Organisation functions more as a forum of reflection and debate on economic policy than as a legislative body.¹³³⁸ The use of potentially binding Decisions has been largely replaced with declarations and pledges.¹³³⁹

2. Activities

In 1970 OECD established an Environment Committee. There is also an Environment Directorate within the Secretariat. The Environment Committee's mandate was renewed in 1975 with these duties: examine problems on the protection and improvement of natural and urban environments and propose solutions to them, consult on environmental actions taken or proposed by members and assess their results, provide guidelines to prevent or minimize potential conflicts between members in the use of shared resources or as the result of national environmental policies, and encourage harmonization of policies.¹³⁴⁰ Projects of the Environment Committee usually result in comprehensive reports containing conclusions for governments to consider when formulating and implementing environmental policies.¹³⁴¹ These conclusions also may lead to Decisions or, more likely, Recommendations by the Council.¹³⁴²

During its first decade the Environment Committee concentrated on programmes that helped states deal with urgent environmental problems, such as PCBs,¹³⁴³ and developed useful guidelines for environmental policy, such as the Polluter Pays Principle for liability.¹³⁴⁴ However, a new approach to pollution is underway. Preventive work now receives greater emphasis than reactive policies.¹³⁴⁵ Presently, OECD stresses the early integration of environmental concerns into decisions likely to have significant environmental impact.

A survey of OECD annual reports for 1981, 1982, and 1983 reveals several things about its environmental work. One, it is highly active in this field. OECD has published a number of useful books on a wide range of environmental topics. Ongoing projects involve hazardous waste, environmental impacts of agriculture, and acid rain.¹³⁴⁶ Two, much of the OECD's environmental work relates to economics. For example, it has studied the relation between environmental policies and decline in industrial productivity and assessed the monetary benefits of environmental regulation.¹³⁴⁷ Three, few of the Environment Committee's projects directly concern marine pollution. The Nuclear Energy Agency (NEA), a subsidiary body of the OECD created to develop nuclear energy for peaceful purposes, is, however, involved with the oceanic disposal

of radioactive waste and the Environment Committee cooperates with NEA on this.¹³⁴⁸

Important NEA work for the purposes of this thesis involves waste management.¹³⁴⁹ A 1977 OECD Decision established a mechanism for the consultation and surveillance of sea dumping.¹³⁵⁰ Although the Decision requires NEA to establish standards for safe dumping, it does not limit dumping radioactive waste and assumes such dumping may be safely done. The Decision also requires NEA to assess the suitability of dumping sites proposed by states. Dumping states are to apply NEA standards, take into account IAEA standards, notify NEA of their intention to dump, supply it with certain information on the waste and dumping operation, and allow a NEA representative to observe the dumping.

In 1981 a four year scientific research and environmental surveillance programme was launched aimed at assessing the impact on the biosphere of radioactive contaminants from sea disposal.¹³⁵¹ Also under way is a technical study of the means of emplacing high-level radioactive waste under the seabed.¹³⁵² In sum, NEA work addresses the engineering feasibility and environmental safety of oceanic radioactive waste disposal, with legal considerations of less prominent concern.

Other than radioactive waste disposal work, OECD is little involved in marine pollution, nonetheless, it has a role to play. Beyond NEA activities, this role has two facets. OECD is capable of influencing national policies and laws that will benefit the marine environment,¹³⁵³ as was the case with the PCBs Decision. In 1976 the Organisation adopted principles upon which the coastal protection, management, and development policies of members should be based and while non-binding they "seem to have played an important role in the development of new national legislation relating to coastal areas."¹³⁵⁴ In addition, it has undertaken "country analyses" of Sweden, Japan, New Zealand, and Greece.¹³⁵⁵ The environmental policies of these states were examined by policy-makers of other countries.¹³⁵⁶ Such objective appraisals can improve the policies and give other states the opportunity to benefit from the experiences of the country examined. It is hoped, other work of OECD, such as its efforts on an international code of behaviour for trans-frontier pollution and its "Equal Access Principle,"¹³⁵⁷ will become a part of international law and, if so, the marine environment will benefit. These are a few examples of the potential of OECD to develop international environmental law that will benefit the seas.

E. The Economic Commission for Europe

1. Mandate and Powers

The ECE bears some resemblance to OECD in that its membership includes some non-European countries, Canada and the United States, and it is primarily concerned with economic matters.¹³⁵⁸ While there is little in its constituting instrument giving the ECE an environmental mandate, it is nonetheless active in the field.

The work of ECE was given a boost by the 1975 Final Act of the Conference on Security and Co-operation in Europe.¹³⁵⁹ The Conference was attended by nearly all ECE members and its Final Act addresses a host of European issues, including environmental ones, and seeks their study and resolution by regional cooperation. The ECE asserts that the Act "had a powerful impact on the intensity and scope of the process of co-operation in the ECE."¹³⁶⁰ Indeed, the Act states its signatories intend to implement it partly within the framework of existing IGOs, such as the ECE.¹³⁶¹ Some specific areas where cooperation is called for are control of air pollution and water pollution, fresh water use, and protection of the marine environment.¹³⁶²

As for the ECE's legislative powers, it may take "no action in respect to any country without the agreement...of that country," and its recommendations are non-binding (Arts. 1, 4). Furthermore, it has been the long practice of ECE to work by consensus.¹³⁶³

Despite these limitations the ECE has been influential in developing national and international environmental law. Some ECE sponsored seminars on pollution have gone beyond adopting recommendations and have developed guidelines that "are frequently used by national and other levels of government when framing new legislation or regulations."¹³⁶⁴ The ECE has also formulated a number of agreements.¹³⁶⁵ A convention of significance for the marine environment that the ECE saw to adoption and has implemented is the ECE Convention on Long-Range Transboundary Air Pollution, discussed in Chapter Six. Work under this treaty is the ECE's main activity in developing international environmental law.

2. Activities

The scope of the ECE's activities has broadened significantly since its early years when post war political tensions limited it to technical aspects of reconstruction.¹³⁶⁶ Since then it has gradually incorporated programmes on comprehensive, interdisciplinary problems.

Environmental work in the ECE began earlier than in most IGOS. In 1957 it studied means to prevent pollution of European waterways

caused by inland vessels.¹³⁶⁷ This work has been continued and expanded in the ECE's Committee on Water Problems, established in 1968.¹³⁶⁸ There are a number of other subsidiary bodies that address environmental issues. For example, the committees on Agricultural Problems, Chemical Industries, Coal, Electric Power, and Gas have all examined pollution problems caused by activities within their competence.¹³⁶⁸

The most important ECE body for environmental purposes is the Senior Advisers to ECE Governments on Environmental Problems that held its first session in 1973. This group's work has experienced the same shift in emphasis as have other European IGOs, that is, it gives increasing attention to preventing pollution rather than reacting to it. Thus, the Senior Advisers pursue the examination of the relationship between environmental quality and socio-economic development, procedures for environmentally sound planning, and methodologies for environmental impact assessment.¹³⁷⁰

In 1984 the Senior Advisers adopted a work programme for 1984 to 1988 with these general subject areas: (1) Policy and Management Problems, (2) Environmental Impact Assessment, (3) Air Pollution, (4) Low and Non-Waste Technology and Re-Utilization and Recycling of Waste, and (5) Resource Problems.¹³⁷¹ While (1), (2), and (4) have an indirect, yet important, relation to marine pollution, of more relevance to this thesis are Air Pollution and Resource Problems.

Air pollution received early attention by the ECE with its work on abatement techniques.¹³⁷² But its shining success is the Long-Range Transboundary Air Pollution Convention. Much of the Senior Advisers work takes place under this treaty and includes projects on monitoring and evaluating long-range transportation of air pollutants, desulphurization of fuels and combustion gases, and developing and updating guidelines for control of emissions from certain industries.¹³⁷³

Within the programme on Resource Problems, there is a section on transboundary water pollution.¹³⁷⁴ Here the Senior Advisers cooperate with the Committee on Water Problems and work in this area is potentially of great significance for the marine environment. In 1980 ECE approved a Declaration on Prevention and Control of Water Pollution, including Transboundary Pollution.¹³⁷⁵ The Declaration says governments sharing water resources should undertake cooperative actions to improve water quality and control pollution, especially through information exchange and early consultation in regard to activities likely to have significant adverse effects on water quality in other states. The Water

Committee is working on implementing this Declaration.¹³⁷⁶ Besides studying pollution reduction techniques for particular industries,¹³⁷⁷ every three years the Committee holds a policy debate on action taken by states to implement principles of the Declaration.¹³⁷⁸ The Committee also has a programme -- in which several states have expressed a willingness to participate -- on monitoring and evaluating transboundary water pollution.¹³⁷⁹ The Water Committee has also studied aspects of marine pollution, making, for example, economic assessments of damages caused to the marine environment by land-based sources and determining which substances among these sources are harmful to the ocean.¹³⁸⁰

Much of the work of the ECE involves seminars, studies, exchange of views, and information gathering and dissemination. ECE bodies do not make law and rarely set out to promote law. Nonetheless, the ECE does have a potential role as the forum wherein land-based pollution might be controlled. ECE continues to work extensively in this area. Some of its members argue that the Declaration of Policy on Prevention and Control of Water Pollution is the starting point in a gradual process of international legal regulation of transfrontier water pollution, eventually leading to a transboundary water pollution convention. Such a treaty would directly benefit the oceans because transboundary water pollution mainly refers to river pollution and rivers are the main source of ocean pollution.

F. Nordic Cooperation

1. Mandate and Powers

Nordic cooperation "rests on a foundation of mutual affinity of the Nordic peoples, an outgrowth of close historical, cultural and linguistic ties. Secondly, there is a pronounced community of values in legal, social and religious matter."¹³⁸¹ Only recently, however, has the longstanding cooperation been formalized, finding expression in the Co-operation Treaty of 1962 (revised in 1971 and 1974),¹³⁸² the 1971 Cultural Treaty,¹³⁸³ and the 1976 Nordic Environmental Protection Convention.¹³⁸⁴ Of these, the Co-operation Treaty is the basic document of Nordic unionism. Parties "shall endeavour to maintain and further develop co-operation between the countries in the juridical, cultural, social and economic fields and in questions of transport and communication" (Art. 1). While Articles 4 and 6 on harmonizing national law may be used to find a mandate for environmental action, in the 1974 revision of the Co-operation Treaty provisions concerning protection

of the environment were introduced.¹³⁸⁵ Article 4 of the Cultural Treaty provides a mandate for Nordic countries to carry out cooperative marine science work.

In order to implement and extend Nordic cooperation under the treaties, Nordic states are to continuously consult in the Nordic Council and the Nordic Council of Ministers (NCM).¹³⁸⁶ The Nordic Council is an organ of collaboration for Nordic Parliaments.¹³⁸⁷ In 1971 the Council's Revised Statute became part of the Co-operation Treaty.¹³⁸⁸ The Council is to be an initiating and advisory body on questions of Nordic cooperation (Art. 39). The Council has various committees, including the Social Affairs and Environment Committee.¹³⁸⁹ Nordic Parliaments elect their representatives to the Council, which meets for one week each year.¹³⁹⁰ The Council, while unable to make binding decisions,¹³⁹¹ can initiate and follow up cooperation efforts by issuing recommendations and statements to the NCM and Nordic governments.¹³⁹² Such pronouncements are often effective as the NCM generally responds with appropriate measures as do the governments.¹³⁹³ This positive effect is due to political realities. Although the Council is not a legislative body, recommendations approved by a broad majority have considerable weight in the national Parliaments and governments.¹³⁹⁴ The Council may submit questions to the NCM and governments.¹³⁹⁵ It also receives reports from the NCM on actions taken in response to Council recommendations.¹³⁹⁶

The NCM is the ministerial level of Nordic cooperation. NCM's purpose is to further cooperation between Nordic governments and between these governments and the Nordic Council, and does so by putting proposals to the Council, administering Council recommendations, reporting to the Council on the progress of joint Nordic projects, and overseeing Nordic undertakings in various areas.¹³⁹⁷ Significantly, the NCM is able to make Decisions.¹³⁹⁸ Decisions, which require unanimous approval, are binding though subject to Parliamentary ratification in some instances.¹³⁹⁹

2. Activities

Activities of Nordic cooperation are broad and include environmental matters. Nordic states are presently in the midst of their third programme for cooperation in environmental protection. The first covered 1972-1977 and its chief objective was to prepare and implement a Nordic treaty on environmental protection.¹⁴⁰⁰ This was attained and the treaty is discussed below. The second programme began in 1978 and involved a number of particular projects with the objective of having the states introduce similar environmental measures in many areas.¹⁴⁰¹ In 1978 the

NCM's Programme for People and Resources was adopted that says "it is essential that an active environment policy should be pursued."¹⁴⁰² "In 1982 there were activities in the following areas: research of water and of the sea, air pollution, noise, waste and recirculation, testing and checking of products, the natural environment and outdoor activities, ecological planning and environmental data."¹⁴⁰³ The list of projects in the present programme is nearly the same.¹⁴⁰⁴

Regarding marine pollution, the NCM stated in 1978 that the work protecting marine waters of the Nordic states is carried out "within the framework of several international conventions and bilateral agreements, if need be, the [NCM] is prepared to take the initiative for additional measures."¹⁴⁰⁵ This approach is reiterated in the 1983-1987 environmental cooperation programme.¹⁴⁰⁶ The ODC, Helsinki Convention, and Nordic Environmental Protection Convention are likely the international treaties referred to. Bilateral agreements the NCM probably had in mind are the 1974 Oresund Agreement between Sweden and Denmark and a 1974 agreement between Finland and Sweden of the protection of the Gulf of Bothnia. Thus, the marine environmental protection work of Nordic cooperation will be largely conducted within the Oslo Commission and the Baltic Sea Marine Environment Commission, the work of which was discussed in Chapter Six.

Along with working to improve the marine environment within the structure of international agreements, Nordic countries also intend, as a part of their environmental programme, to investigate the effect of polluting substances on the marine environment.¹⁴⁰⁷ Also, the NCM is preparing a report on the global environment that will include a study of the oceans.¹⁴⁰⁸

A survey in the early 1980s on the effect of Nordic environmental projects concluded they "are generally used in administrative decision-making or as a basis for further investigations. In some cases, the project results are used directly in legislation."¹⁴⁰⁹ Consequently, Nordic states have developed consistent legislation and administrative rules in many areas.¹⁴¹⁰ The NCM believes Nordic environmental cooperation has created a uniform basis for decisionmaking¹⁴¹¹ and one publicist writes that harmonized law is found in almost every legal field, including maritime law and protection against marine pollution.¹⁴¹²

The development of consistent national legislation has the potential of creating a regional international environmental law of the sea.

3. The Nordic Environmental Protection Convention

The Nordic Environmental Protection Convention is not directly

concerned with marine pollution.¹⁴¹³ Basically, it requires environmental interests of all parties be given equal status in the national legislation of each country. Parties must give citizens in other Nordic states the same status as their own citizens with regard to environmental problems. In particular, when a state is considering allowing environmentally harmful activities, it must assess the harm such action may cause a neighbouring Nordic state, and this assessment must be made on the same terms as if the problem would affect interests in the country of origin (Art. 2). The treaty thus attempts to restrict trans-frontier pollution by requiring the potential harm of an activity be examined with the same criteria as if the harm were to occur in the polluting state. After such an assessment, the examining authority must notify countries likely to be affected (Art.5).

Individuals affected by transboundary pollution are allowed to bring legal action in the polluting state challenging the permissibility of the activity and can claim compensation for any harm suffered (Art. 3). Furthermore, each state is to establish a Special Authority that acts as a kind of ombudsman with standing, on behalf of its citizenry, before the courts of a polluting state (Art. 4).

The treaty applies only to activities carried on at a fixed installations. Thus, ship pollution is not covered. But land-based sources are. The convention, which places no limits on polluting discharges, is far more procedural than substantive, opening as it does national courts to foreign claimants and requiring a review of potentially harmful activities before permitting them.

G. The North Atlantic Treaty Organisation and its Committee on the Challenges of Modern Society

1. Mandate and Powers

NATO is a security organisation with the purpose of defending Western Europe and North America from armed attack.¹⁴¹⁴ NATO's Council implements the North Atlantic Treaty and the North Atlantic Assembly, made up of national legislators from member states, considers and debates problems of the alliance.¹⁴¹⁵ The Assembly may direct recommendations to the Council and resolutions to member governments and parliaments, but these are without legal effect.¹⁴¹⁶ The Council is empowered, by Article 9, to establish subsidiary bodies and this, coupled with Article 2, enabled the Committee on the Challenges of Modern Society (CCMS) to be created. Article 2 states: "The parties will contribute

toward the further development of peaceful and friendly international relations...by promoting conditions of stability and well being...."

The idea for CCMS was President's Nixon's. In 1969 he asked for the creation of "'a committee...to explore ways in which the experience and resources of the Western nations could most effectively be marshalled toward improving the quality of our peoples' and to help 20th century man to learn 'how to remain in harmony with his rapidly-changing world.'"¹⁴¹⁷ That same year the Council established CCMS with these objectives:

[T]o examine methods of improving exchanges of views and environmental experiences amongst members of the alliance, to consider specific environmental problems with the object of stimulating action to treat them by member-governments, to perform various tasks aimed at improving the existing system of international environmental regulation, and to coordinate the efforts of NATO members in this area...¹⁴¹⁸

CCMS is thus unique among European IGOs discussed in this chapter, it is the only one solely concerned with environmental pollution.

The CCMS is not empowered to convene international conferences or draft treaties and it has no legislative authority. It is a research institution. Based on its research, it may adopt resolutions and recommendations for the NATO Council's consideration. CCMS resolutions approved by the Council require NATO members to press for particular action in other international fora.¹⁴¹⁹ CCMS recommendations approved by the Council are not binding, yet CCMS requires that a review of national actions to implement recommendations be conducted under its auspices, a mechanism capable of producing pressure influencing compliance. Recommendations, however, are not far-reaching, for NATO rigidly adheres to decision by consensus, that is, CCMS only acts if all members concur and the Council only accepts CCMS recommendations if all members agree, and even then recommendations are subject to approval by governments.¹⁴²⁰

2. Activities

CCMS annually sponsors a meeting of environmental ministers that allows exchange of experiences and discussion of common problems. But its purpose is research, though CCMS does not itself do the research. This work is decentralized and operates on four concepts: "pilot country leadership, stimulation of national and international action, open participation and results, and follow-up..."¹⁴²¹ Project proposals are made by a NATO state or CCMS but it is up to a single state to pilot, or lead, the project. If the project is accepted by CCMS, countries in and outside of NATO may participate. States may choose not to participate

if the project is of no interest to them. Once completed, the results are freely available, even to non-NATO states.

CCMS is not a bureaucracy devising projects that may or may not be of interest to its membership. Members take the initiative and only become involved in projects that interest them. Consequently, the projects receive full support and are expeditiously carried out.¹⁴²²

CCMS does, however, have weaknesses.¹⁴²³ Some NATO countries believe CCMS is the wrong forum to address environmental issues and give it little support. It lacks a specific purpose to justify its existence. What CCMS does can be accomplished within other IGOs or by informal bilateral or trilateral arrangements.

It has been suggested that CCMS could play an important role were it to confine itself to projects not undertaken by other IGOs.¹⁴²⁴ It is in a unique position, for example, to fully study the environmental impact of military exercises and the oceanic disposal of munitions. It might also coordinate the NATO naval network to monitor pollution and conduct surveillance of shipping to ensure marine pollution control treaties and national laws are obeyed.

As for the pilot studies undertaken so far, few relate directly to marine pollution.¹⁴²⁵ Peripherally relevant projects concern air pollution and disposal of hazardous waste. Of direct relevance have been studies of oil spills and the establishment of a "mathematical model of the North Sea."¹⁴²⁶ A recent project involves an effort to produce a state-of-the-art survey of various teledetection techniques to detect marine pollution.¹⁴²⁷ Despite its overall lack of interest in marine pollution, CCMS could study any aspect of it. It is well situated to respond to neglected aspects or those requiring prompt study.

H. Conclusion

The marine pollution work of European IGOs discussed in this chapter is less considerable than that of the global IGOs. This may be because some of their constituting instruments -- as those of ECE and the Council of Europe -- do not give a mandate for environmental action. OECD has only an implied mandate.

The law-making powers of European IGOs are weaker than their global counterparts. The ECE, Council of Europe, and CCMS have no legislative powers. Unanimity is required before EEC, OECD, and the NCM can take binding decisions on the environment. Although OECD and the NCM seldom use this limited power, the EEC vigorously uses it and has adopted

many binding acts on environmental protection. The EEC is also a party to several marine pollution control treaties and its environmental efforts also go on under these.

By a number of means the European IGOs seek to promote environmental law. Nordic states have adopted a good deal of similar national environmental law, some ECE guidelines have been adopted into national law, and much of OECD's environmental work seeks to promote stronger national environmental law.

The Council of Europe and CCMS are not very active in marine pollution research and information activities. Even OECD (at least outside of its NEA), Nordic Cooperation, and the ECE do not direct much of this kind of work to marine pollution. Only EEC is significantly involved.

Overall, these European IGOs are only marginally concerned with marine pollution. Even the EEC, which does the most, only gives less than 1% of its budget to the Commission's Environment Directorate, and only a part of this can go to marine pollution. This does not mean the member states of these IGOs are unconcerned about the oceans. Quite the opposite is true. But this concern is mainly reflected in the work of functional bodies created by the Oslo Dumping, Paris, Helsinki, and Barcelona Conventions. Because of the work of these bodies there is less reason and fewer benefits for the members of OECD, ECE, etc., to become engrossed in marine pollution issues. Indeed, Nordic states have decided their marine protection work will primarily be carried out through the marine pollution control conventions. Also, OECD and ECE include non-European countries that would have little interest in participating in and funding projects to protect European seas. Perhaps another reason why European IGOs are largely willing to leave matters to functional bodies is that their members do not all border the same seas. It is more logical and politically convenient to leave protection of a sea to the functional body specifically set up to protect it, rather than direct the work of an IGO toward a sea that does not border all members of the IGO.

The European IGOs do, however, have a role to play, but this is more indirect. These organisations are able to study broader environmental problems than is a functional commission overseeing day to day implementation of a treaty. OECD, for example, has studied and developed the Polluter Pays and Equal Access Principles and is studying the legal aspects of transfrontier pollution. The IGOs are also in a position to promote international understanding and the usefulness of international

cooperation. The Assemblys of EEC, Council of Europe, and NATO, and the Nordic Council may foster a better understanding among states about environmental problems. Members of these bodies may be motivated to, upon return to their home states, advance national policies protective of the environment, particularly regarding activities with transboundary consequences. Several of the IGOs sponsor meetings of ministers of the environment, allowing for exchange of experiences and discussion of common problems. Some seek means by which environmental concerns can be inserted into all facets of society. While such activities are not specifically directed at marine pollution, they can contribute to lessening the harmfulness of its sources.

Though it was possible to determine among global IGOs lead and supporting responsibility for each source of marine pollution, this cannot and need not be done with the European IGOs.

It cannot be done because, firstly, the jurisdictional arrangements among European IGOs are not as neat as with global IGOs. There are global IGOs with specific mandates to deal with one type of marine pollution; IMO with ship pollution, WMO with air pollution, ISBA with deepsea pollution. European IGOs are not constituted to facilitate delineating lead responsibility among them for each source of pollution. Second, there are three seas around Western Europe. Each has distinct ecosystems and hydrographic characteristics. Each suffers from different contaminants. Each requires different scientific study and law. It would be a complex, expensive task for one European IGO to adequately respond to the administrative, scientific, and legal needs for more than one sea. Third, since there is no one IGO with members bordering just one sea, decisions on how to handle problems of a marine region would partially be made by states from another region, something that would not be politically acceptable. Thus, one IGO could not be named the lead IGO for a pollution source for all of Europe.

But there is no need to determine lead and supporting IGOs. Functional commissions have been given lead responsibility for all sources in the Baltic Sea and Mediterranean Sea. The Oslo Commission and Paris Commission have leads for North Sea pollution problems

Recognising that the European IGOs discussed in this chapter are not, overall, greatly involved with marine pollution, and that European states have already assigned important pollution control duties to functional commissions, the coordination picture becomes clearer. Though since there are eight global IGOs and six regional IGOs involved, to

varying degrees, with marine pollution, and at least five functional bodies so involved, legitimate questions about coordination may be raised. The next two chapters study the means by which these organisations seek to collaborate and question the underlying ideas that more coordination is needed and that coordination is always a wise goal to seek.

CHAPTER TEN

MECHANISMS USED TO SATISFY COORDINATION DUTIES

A. Introduction

In Chapter Seven a review of the legal framework for organisational collaboration was presented. This chapter studies the methods by which IGOs carry out coordination duties.

Part of the coordinating machinery is institutionalized coordination; that is, coordinating duties given a body created either specifically for coordination or for a number of purposes but including coordination. Such bodies include the United Nations General Assembly, ECOSOC, the Administrative Committee of Co-ordination (ACC), the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), and the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO). UNEP's Regional Seas Programme (RSP) and the System Wide Medium Term Environment Plan (SWMTEP) are also institutionalized mechanisms designed to coordinate. An abundance of coordination, however, is done by non-institutionalized means that comprise a host of methods: meetings and joint sessions, joint committees and programmes, informal consultation, harmonized reporting and procedures, exchanges, and liaisons.

Not only has the international community's legal and organisational response to marine pollution taken place on global and regional levels, but, in general, its efforts to coordinate use different methods at these levels. Global IGOs use institutionalized as well as non-institutionalized methods. Nearly all inter-regional coordination, on the other hand, is informal. There is yet another level upon which coordination may be needed, that is, intra-regionally, particularly in Europe which has many IGOs. Here the coordination is largely non-institutionalized. In areas other than Europe there is less need for coordination because, compared with Europe, most regions do not have the number and varied nature of IGOS.

In the chapter's conclusion, reasons for the difference in coordinating machinery at the global and regional levels are offered. An attempt is also made to analyze the effectiveness of the institutionalized and non-institutionalized approaches and, if the usefulness differs, to answer why. These queries may also reveal differences in

the purposes and functions of coordination at the regional and global levels.

B. Coordinating Machinery

1. ECOSOC and the General Assembly

The United Nations Charter gives the General Assembly and ECOSOC general coordinating duties.¹⁴²⁸ The Charter, however, gives neither body the authority to take binding decisions on IGO coordination. Rather, their coordinating role is to be conducted by consultation and recommendation.

Although ECOSOC did negotiate the relationship agreements, took the initiative to establish the ACC and has contributed to more cohesion in administrative matters, its efforts to coordinate programmes have been unsuccessful even though it -- as envisaged by the Charter -- was to play a key role here. This negative opinion of ECOSOC "is the quasi-unanimous assessment which one encounters in governmental, intergovernmental and secretariat circles of the UN system as well as in academic studies and publications."¹⁴²⁹ ECOSOC has not even taken charge of coordinating its regional economic commissions.¹⁴³⁰ In a 1970 resolution ECOSOC itself admitted its work on coordination has not substantially improved collaboration.¹⁴³¹ At the time of the Stockholm Conference the ineffectiveness of ECOSOC as a coordinating body "was very strongly felt."¹⁴³² This is a reason why an Environmental Coordinating Board was established within UNEP.¹⁴³³ Many reasons are given for the failure of ECOSOC to coordinate,¹⁴³⁴ but the fundamental one is that it was given few substantive powers to carry out this task.¹⁴³⁵ Recognising ECOSOC's failure to coordinate, it is probably of small consequence it gives only irregular attention to ocean matters.¹⁴³⁶

The General Assembly has been much less concerned with coordination than ECOSOC, being preoccupied with economic and political activities. When it does address coordination it criticizes and recommends, but on the whole has played an insignificant role.¹⁴³⁷ Even if the Assembly did seek to play a wider role there are obvious limits to the extent to which co-ordination can be effectively achieved through the debates and recommendations of a large deliberative body;¹⁴³⁸ one without expertise in understanding the relative value of the wide-ranging marine pollution activities and deciding what new programmes ought to be undertaken.

It is, however, probably true that the nonbinding recommendations of ECOSOC and the General Assembly calling for cooperation have kept the

United Nations bodies and specialized agencies constantly aware of the coordination issue, and in this indirect way further greater order.¹⁴³⁹

2. The Administrative Committee on Coordination

a. Introduction

To carry out coordination duties called for by the Charter, in 1946 ECOSOC requested the Secretary-General to establish a standing committee of administrative officers consisting of himself and those of the specialized agencies for the purpose of taking all steps to insure the most effective implementation of the relationship agreements.¹⁴⁴⁰ Consequently, the ACC began its work in 1947. It is not an organ of ECOSOC; the ACC derives its authority from the powers of its members as chief executive officers of their IGOs.¹⁴⁴¹

The relationship agreements each contain an undertaking by the agencies to cooperate with any organ ECOSOC sets up for furthering collaboration. This provision has been understood to relate primarily to the ACC,¹⁴⁴² which is also a device through which the agencies discharge their constitutional obligations to cooperate with one another.

What began in 1947 as a small group with five members,¹⁴⁴³ has greatly expanded. Along with the United Nations Secretary-General, the heads of all the specialized agencies are members, as are the leaders of the World Food Programme and the General Agreement on Tariff and Trade and ten United Nations bodies, such as UNEP, UNIDO, and UNCTAD. Matters are complicated even further since certain United Nations Under Secretaries-General attend ACC meetings as do the Chairmen of the General Assembly's Advisory Committee on Administrative and Budgetary Questions and Joint Inspection Unit and the Executive Secretaries of the five regional economic commissions of the United Nations. At times the heads of regional IGOs have been invited.¹⁴⁴⁴ Sometimes 50 to 60 people are present.¹⁴⁴⁵ This great mix of individuals has made the meetings less informal and too large and heterogeneous to be an effective coordinating body.¹⁴⁴⁶

The tasks of the ACC for inter-secretariat cooperation have never been formally stated, thus the 1946 ECOSOC resolution, referred to above, is its mandate.¹⁴⁴⁷ In its early years the ACC concentrated on organizational and administrative matters, such as personnel, statistical, and financial matters.¹⁴⁴⁸ Though it also sought to establish a coordinated programme throughout the system,¹⁴⁴⁹ it was unable to agree on priorities. In 1948 it said its efforts to do so would take "the form of a continuous flow of relatively small decisions, all arriving at the most

economical use of available resources and at the application of a sound financial policy.'" ¹⁴⁵⁰ Acceptance of this ad hoc, incremental approach to setting priorities -- which is yet today the ACC's position -- means there is no general discussion of priorities in the United Nations system. ¹⁴⁵¹

b. The ACC's Prior Consultation Procedure

Although it has abandon attempts to set priorities, the ACC tried to develop a systematic prior consultation procedure by which, it hoped, agencies will themselves bring order to the organisational network. Prior consultations refer to consultations among IGOs that precede or accompany the preparation of work programmes and budgets and aim at avoiding duplication in these programmes and at harmonizing them. ¹⁴⁵²

In 1950 ECOSOC requested the Secretary-General and the ACC to make arrangements to ensure programmes that concern more than one IGO be the subject of inter-agency consultations prior to their adoption. ¹⁴⁵³ The arrangements adopted in response did not achieve their objective and in 1969 an ECOSOC committee recommended each draft work programme should, as soon as possible, be sent with a request for comments to all IGOs having programmes in the same or related areas. ¹⁴⁵⁴ The ACC responded with a new procedure but in 1977 said the effect of this response on programming was "very limited." ¹⁴⁵⁵ The problem was that consultation, though prior to final acceptance of the programme by the governing body, occurred after the programme and budget had been formulated by the secretariat. The draft being the final product on a long process of internal examination and decision was not easily modified. The fault with prior consultation was that it applied to the last stage of the programming process. ¹⁴⁵⁶

Nonetheless, the ACC decided to keep the procedure with the idea of improving it and decisions made in 1981 on the procedures are those currently in practice. ¹⁴⁵⁷ These include an earlier circulation of programmes. Rather than waiting until the programme is finalized and difficult to change, there may be a less formal circulation of draft programmes to interested agencies that may comment on the draft. ¹⁴⁵⁸ Informal bilateral consultations between programme managers is encouraged. ¹⁴⁵⁹ In some areas the need for prior consultation might be sufficiently great to require a more formal process of consultation and it is suggested standing inter-agency bodies serve as a vehicle for such consultation. ¹⁴⁶⁰ Besides these innovations the old prior consultation procedure of circulating the final programme proposals throughout the network continues.

It remains to be seen whether the agencies will carry out the sug-

gestions and whether they will make a difference. The approach is sensible. The agencies are able to know what others intend to do and can structure their programmes to complement one another. They will also be able to settle jurisdictional feuds if they are recognised and discussed prior to formal acceptance and implementation of activities.

c. The ACC's Subsidiary Bodies: The Sub-Committee on Marine Affairs and the Designated Officials for Environmental Matters

The ACC meets three times a year for short periods.¹⁴⁶¹ Its preparatory work and much of its substantive work is done by officials within the United Nations Secretariat and deputies of the executive heads of the agencies. Much of the work takes place within the ACC's Consultative Committee on Substantive Questions (CCSQ). There are two branches of the CCSQ, one for Operational Activities (CCSQ(OPS)) and one for Programme Matters (CCSQ(PROG)).¹⁴⁶²

Subsidiary bodies of the ACC have also been specifically concerned with oceans and the environment, and the two to be discussed here are the Sub-Committee on Marine Affairs and the Designated Officials for Environmental Matters (DOEM).

Formal cooperation in ocean affairs began in 1960 with the ACC's establishment of the Sub-Committee on Oceanography, entrusted with ensuring coordination between the agencies and the newly formed IOC.¹⁴⁶³ After a name change in 1966, in 1977 the Sub-Committee's terms of reference were broadened and its name again changed, this time to the Sub-Committee on Marine Affairs.¹⁴⁶⁴ The new terms of reference said "marine affairs" includes all subjects the Sub-Committee identifies as requiring coordination, such as the implications of and developments in marine science and technology, interaction between uses of the sea as reflected in the functions of United Nations organs, and examination of decisions of United Nations organs as they affect marine affairs.¹⁴⁶⁵

Although this Sub-Committee was abolished in 1978 it will be useful to look at it for doing so contributes to understanding the coordination issue. Some of the Sub-Committee's more specific functions included: ensuring regular consultation and joint planning of programmes, promoting systematic prior consultations and joint planning of programmes, and identifying programme areas and activities where concerted action would improve or expedite results.¹⁴⁶⁶

Membership in the Sub-Committee was open to all agencies and regular participants from its 1960 origin were the United Nations, FAO, UNESCO, IOC, WHO, WMO, and IMO.¹⁴⁶⁷ Its annual sessions were later attended by

IAEA, UNCTAD, UNEP and some regional economic commissions.¹⁴⁶⁸

The 1977 terms of reference required the Sub-Committee to periodically review its effectiveness, and it intended to make a preliminary evaluation in 1979 and a complete analysis in 1980.¹⁴⁶⁹ It also planned to convene a special session in 1978 at which the agencies would examine one another's draft programme forecasts for the 1980-1981 period to harmonize activities and include needed coordination links before programmes were submitted to governing bodies.¹⁴⁷⁰ The coordination effort was to be evaluated in 1980.¹⁴⁷¹

These were worthwhile coordination projects and it appears the Sub-Committee was well-placed to contribute to greater coherency among the agencies concerned with marine pollution. All relevant ocean and environmental IGOs participated and its terms of reference were broad. But the Sub-Committee was abolished in 1978 when the economic and social sectors of the United Nations were reorganised.¹⁴⁷² The end came just a year after its name was changed and its responsibilities broadened. During discussions on the extension of its competence, the United Nations Secretariat referred to the Sub-Committee "as the central mechanism for interagency co-operation in the marine field."¹⁴⁷³ It also accurately remarked that problems of coordination in marine affairs were becoming more complex.¹⁴⁷⁴ These comments make it all the more curious that the ACC's Sub-Committee on Marine Affairs was abolished and that nothing replaced it.

During the reorganisation of the United Nations, the committee set up by the General Assembly to advise on restructuring suggested the ACC's machinery be streamlined.¹⁴⁷⁵ The ACC had become unwieldy with too many subsidiary bodies.¹⁴⁷⁶ Six sub-committees were abolished.¹⁴⁷⁷ Various reasons are given why the Marine Affairs Sub-Committee was one of the six: it was ineffective;¹⁴⁷⁸ its work was done by other bodies making it superfluous;¹⁴⁷⁹ and because in the mid-1970s politicians did not view marine affairs as particularly important the Sub-Committee lacked political support.¹⁴⁸⁰ The thread running through each opinion is that the Sub-Committee was seen as dispensable, even though it was "the central mechanism for interagency co-operation in the marine field."¹⁴⁸¹

It is theoretically possible that questions of cooperation among agencies concerned with oceans, and with marine pollution in particular, might be discussed within the ACC's CCSQ(PROG), but a review of this committee's reports of the past few years proves otherwise; nor has

this organ concerned itself with general environmental problems. Similarly, reports of ACC meetings for the past few years reveal a lack of concern for coordination issues within the marine environment field.¹⁴⁸² The ACC does, however, review the annual report of UNEP but this is far from engaging in an effort to coordinate by prioritization and rationalization.¹⁴⁸³ Since the ACC's actual coordinating work in sectoral areas takes place in its subsidiary bodies, the abolishment of the Marine Affairs Sub-Committee means the ACC does not attempt to coordinate marine pollution work.¹⁴⁸⁴

There is, however, the Designated Officials for Environmental Matters (DOEM), an arm of the ACC and through which enhanced coordination is possible. DOEM's predecessor was UNEP's Environmental Coordinating Board (ECB). The ECB was set up when UNEP was established and its purpose was to coordinate environmental programmes at the secretariat level.¹⁴⁸⁵ This machinery was to link the work of specialized agencies. When considering a coordinating organ for environmental matters the General assembly thought it best to keep the ECB separate from the ACC so the environmental coordination might develop its own identity.¹⁴⁸⁶ In the mid-1970s the Governing Council of UNEP expressed its support for the ECB and viewed it as a success.¹⁴⁸⁷ Nonetheless, a few years after it was established the ECB was dissolved by the General Assembly.¹⁴⁸⁸ Its functions were then given to the ACC. This switch by the General Assembly was based on the belief that all coordinating mechanisms in the United Nations system should be merged with the ACC.¹⁴⁸⁹ In response, the ACC set up DOEM to carry out this delegation of work.¹⁴⁹⁰

While not all ACC members participate in DOEM, those with environmental interests do.¹⁴⁹¹ DOEM meets about three times a year with UNEP preparing for the meetings in consultation with members and chairing the meetings.¹⁴⁹²

Through DOEM the organisations are briefed on conferences and meetings recently convened by UNEP and apprised of future ones.¹⁴⁹³ DOEM's purpose is to review, programme, and coordinate environmental matters of the entire United Nations system; prepare a report for the ACC on its work; and designate the subjects and methods for undertaking thematic joint programming.¹⁴⁹⁴ Thematic joint programming exercises have been held by DOEM that discuss detailed programme activities. DOEM proper tends to concentrate more on policy matters than detail and this has involved it in the development of SWMTEP, discussed below, as well as in its continuing oversight.¹⁴⁹⁵

d. The Failure of the ACC

Deciding soon after its creation that it could not set programme priorities, the ACC turned to the notion of prior consultation in the hope of bringing about more order. It is unclear whether the new procedures of prior consultation are better than the ineffective old ones. The ACC's nearly two decade long experiment with coordinating issues in the Subcommittee on Marine Affairs failed¹⁴⁹⁶ and today the ACC gives little attention to marine affairs. Thus, if marine environment problems are to be coordinated by the ACC, it is DOEM that must do it. DOEM, however, has more to deal with than just marine pollution and whether it is accomplishing its purpose is not clear. Some individual representatives to DOEM, however, believe it is, broadly speaking, a worthwhile body.¹⁴⁹⁷

Set up to coordinate all aspects of the organisational network, the ACC is generally regarded as a disappointment in coordinating substantive programmes. Criticism of it ranges from the harsh, "[e]verybody knows that the ACC hasn't coordinated anything in its life..."¹⁴⁹⁸ to the mild, "[i]t has had only limited success..."¹⁴⁹⁹ A strong criticism comes from within the United Nations. ECOSOC's Committee on Programming and Coordinating (CPC) typically views the ACC as unable to achieve "genuine results...in terms of co-operation, that the procedure was complex and mysterious and that ACC papered over differences and concealed overlapping, parallelism and duplication."¹⁵⁰⁰

There are a number of reasons for such assessments, including the ACC's heterogeneity and unwieldy size. Representing as it does the fragmented and decentralized system of agencies and United Nations bodies, the ACC necessarily suffers the same strains that system places on coordination. The inherent limitations of the ACC have been summarized:

Because of its composition, it cannot easily take a position detrimental to the interests of any agency or in opposition to the wishes of its executive head; it can be used as an instrument for economizing staff and other resources but not as an instrument of budgetary stabilization; it has no authority to decide on the distribution of international resources as between different purposes, or to settle jurisdictional disputes (though it has usually been able to find practical solutions in cases of overlapping competences). It cannot establish, though it may influence, the policy decisions which are fashioned through the inter-governmental organs of the United Nations, the specialized agencies and the IAEA.¹⁵⁰¹

On the other hand, at least the "ACC provides a point of contact for Secretariats at the Senior executive level. This in itself promotes coordination."¹⁵⁰²

There also seems to be resistance among states to make the ACC more effective. In 1969 the ACC in its report to ECOSOC said:

The main task of the ACC is to identify, for the benefit of [ECOSOC] and the governing bodies of the organisations...the major problems that confront the United Nations system of organisations, and collectively to tender advice on the manner in which its resources should be used to resolve such problems in a constructive manner.¹⁵⁰³

This statement suggested a stronger coordinating role for the ACC but "produced a lively reaction" in ECOSOC's CPC, which saw the ACC attempting to exceed its bounds.¹⁵⁰⁴ The following summer ECOSOC "somewhat stiffly reaffirmed that the policy-making role in the United Nations system is the prerogative of Member States in the competent organs of the system, and instructed CPC to review the sphere of activities and competences of ACC. That review led to a lengthy Council resolution...[that had as its] clear intention to relegate ACC to a more subordinate position."¹⁵⁰⁵

ECOSOC is of course composed of representatives of states and a study in the Netherlands International Law Review made interesting observations about what various groupings of states think about the ACC taking strong coordinating initiatives. Developing states are "very volatile in their approach to intersecretariat co-ordination problems," with the majority not very interested in encroaching on the prerogatives of IGOs; East European countries advocate a passive ACC, if only because international civil servants should not play a political role; France has more or less followed this approach; and a number of developed countries have traditionally supported a strengthened, policy-formulating ACC.¹⁵⁰⁶ The reason for this latter position is because such states bankroll IGOs they are more concerned with eliminating duplication. Some developed countries, however, particularly the United States, are today less interested in a strong United Nations.¹⁵⁰⁷ "An effective ACC might, therefore, be no longer in their interest;"¹⁵⁰⁸ better that decisions concerning priorities and activities be made within each agency than to give one body direction over the entire system.

In 1977 a United States Senate committee studied United States participation in IGOs. The quote below is taken from the report's discussion of the politicization of IGOs, but contains insights on the rejection of the idea that all coordination is good.

[I]f the U.N. General Assembly or one of the organs associated with it, such as ECOSOC, were made too effective a coordinating organ, it might only make it easier for the politics that now dominate the U.N. General Assembly to dominate the international organisations as well....Any efforts at coordination might lead to changes in the status or nature of certain international or-

ganisations which the United States would consider against its interests...

Several questions are thus presented by any proposals to revitalize the coordinative role of the U.N and rationalize its organisation. Where would greater rationalization of the system be consistent with U.S. interests, and where would it be inconsistent?¹⁵⁰⁹

Such state policies as these provide some substantiation to this statement: "The record shows conclusively that, while the Agencies may genuinely want to work together (and in so doing help bring the [system] under control), they have been frequently prevented from doing so by forces outside their control."¹⁵¹⁰

In sum, the inherent nature of the ACC, the lack of authority to make decisions, the fragmentary system it is a microcosm of, and the lack of interest in states in inter-secretariat coordination all contribute to the "arid process"¹⁵¹¹ that is the ACC.

3. The Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography

ICSPRO was created in 1969 and arose out of a general dissatisfaction with the ACC Sub-Committee on Marine Affairs and the belief a more specialized coordinating mechanism in marine science was needed.¹⁵¹² ICSPRO's objective is to contribute to cooperation between organs of the United Nations system concerned with oceanic programmes and thus to avoid duplication and overlapping in the planning and implementation of marine science programmes.¹⁵¹³ The committee consists of the United Nations, FAO, WMO, and IMO, each of which are required by the Committee's Terms of Reference to contribute to the Secretariat of the IOC, sustain the work of the IOC through its programmes, and use the IOC as appropriate for advice on matters of marine science.¹⁵¹⁴ Although the ostensible purpose of ICSPRO is to coordinate marine science activities, it does seem more of a maintenance group for the IOC. "The members of ICSPRO provide support to IOC's activities in the form of cooperation in technical work, the provision of staff to...IOC, conference services, publication facilities, and other means as needed."¹⁵¹⁵ A past IOC Secretary has referred to such duties by the members as "membership fees."¹⁵¹⁶ An ICSPRO document says: "The establishment of this Committee is a step forward in broadening the base of the IOC..."¹⁵¹⁷

Though concerned with a limited aspect of marine pollution, ICSPRO has not developed into an effective coordinating mechanism and has not met the expectation of an early IOC Secretary, Dr. Holt, who in 1970, a year after ICSPRO was constituted, said ICSPRO would review the marine

science programmes of the members and, if fully exercised, will provide a means for synthesis of all such programmes.¹⁵¹⁸

In 1980 some ICSPRO members said there was a need to improve its effectiveness.¹⁵¹⁹ At the 1981 session the issue was again raised and ICSPRO itself "felt a need to make itself more effective and define better its relation to the IOC and to IOC programmes, as well as joint programmes amongst its members."¹⁵²⁰ The Committee's Secretary made several insignificant suggestions for improving ICSPRO¹⁵²¹ and all ICSPRO did was express its desire "that it meet at least once a year so as to improve its effectiveness..."¹⁵²² It was also decided each ICSPRO member would evaluate the Committee's usefulness and propose ways of improving it.¹⁵²³ But in the reports of the two meetings following the 1981 session no mention is made that these studies were completed. The 1981 session also decided that the next meeting would include a review of the functions and work of ICSPRO.¹⁵²⁴ Ironically, ICSPRO did not meet the following year because of "various scheduling problems and the heavy pressure of work in the Secretariats of the... members of ICSPRO..."¹⁵²⁶ In other words, the members do not consider ICSPRO important enough to make time and staff available to it when other work is pressing.

When ICSPRO did meet again, that is, in 1983, it does not appear to have discussed its utility.¹⁵²⁷ Nor was the issue addressed at the 1985 session.¹⁵²⁸ Thus, whatever brought about questions of ICSPRO's usefulness in 1980 have not been remedied, at least nothing in the reports of the Committee's meetings indicate changes have been made. Indeed, matters seem to have worsened. IMO did not send a representative to the 1983¹⁵²⁹ and 1985¹⁵³⁰ sessions. At the 1985 meeting the Secretary said IMO had withdrawn the staff member it had loaned IOC.¹⁵³¹ IMO's rationale was that its increased workload required the transfer.¹⁵³²

The points raised thus far indicate serious questions exist about the success of ICSPRO as a coordinating body, a view supported by at least two commentators.¹⁵³³ Its usefulness is intrinsically hampered by its limited mandate and membership. It does not seek to coordinate the overall work of IGOs, just marine science and one must wonder how scientific work can be easily extracted from the programme activities such work is to complement. ICSPRO's underlying purpose of support for IOC cannot help but make it a somewhat dubious institution in the eyes of most IGOs. In fact, FAO and UNEP think "it is inconsistent with IOC's

status as a 'joint specialized mechanism' under the ICSPRO agreement to have its budget and programme subject to the overall authority of UNESCO..."¹⁵³⁴ FAO has also said that if ICSPRO remains part of UNESCO then UNESCO should provide it with the basic support.¹⁵³⁵ Furthermore, ICSPRO is not empowered to delimit the mandates of its members or direct their activities in any way. Its membership is limited because WHO and IAEA, and more importantly, UNEP, are not members. The difficulties between UNEP and IOC have been of long duration. While it is unclear from the IOC reports why UNEP is reluctant to join ICSPRO and give the IOC more support, the reports do offer possible reasons.

In 1982 Poland's delegate to the IOC Assembly said that UNEP was more concerned with pollution on land and in coastal waters.¹⁵³⁶ As IOC's interests in marine science are broader, perhaps there is a fundamental distinction between the work and priorities of the two IGOs that inhibits close collaboration. Dr. Keckes, the head of UNEP's RSP, appeared before the IOC Executive Council in 1984 to discuss the problem and said UNEP has problems understanding what role IOC's GIPME has in the RSP.¹⁵³⁷ He also said efforts at cooperation would be faced with problems arising from the different geographic coverage of the IOC regional subsidiary bodies and the UNEP regional seas structures, as well as from their mandates.¹⁵³⁸ Dr. Keckes also said the legal and budgetary structure of the RSP made it relatively easy to cooperate on specific, well-defined projects.¹⁵³⁹ The implication is that IOC's activities tend to be broad and less suited for the RSP. An observer of and sometimes participant in the affairs of IGOs believes the problem between the IOC and UNEP rests largely upon the clash of two forceful personalities, Dr. Keckes and Mario Ruivo, head of the IOC. Whatever the reason, UNEP does not intend to become part of ICSPRO and, as Dr. Keckes told the IOC Executive Council, for the present UNEP considers GESAMP as the most appropriate interagency body for matters relating to the scientific aspects of marine pollution.¹⁵⁴⁰

ICSPRO is a weak coordinating body, designed more to buttress IOC than to coordinate. A review of the reports of the past six ICSPRO sessions give the impression it is somewhat sterile. Without IAEA and WHO, ICSPRO lacks optimum membership and without UNEP, the IGO in the vanguard of developing the international environmental law of the sea, the Committee is incapable of achieving much. For whatever reasons, IMO seems to be in the process of cutting its ties with ICSPRO. To conclude, ICSPRO, although it has been in existence nearly two decades,

seems to be searching for a role. It may also be a body coming to its end.

4. The Joint Group of Experts on the Scientific Aspects of Marine Pollution

In 1968 FAO, IMO, WMO, and UNESCO established a joint working party to advise on scientific questions concerning marine pollution. The next year the group was institutionalized as GESAMP.¹⁵⁴¹ Since then, WHO, IAEA, the United Nations, and UNEP have joined.¹⁵⁴² The most important components of GESAMP, however, are not IGOs but experts. Each IGO nominates several internationally respected experts to GESAMP. These individuals, representing many marine science disciplines, act in their individual capacity and serve GESAMP, not their nominating IGO. Thus, annual sessions of the Group are attended by the experts and the member IGOs.

Scientific issues are discussed, and if possible, resolved at the annual session. If there is a need for intersessional work on an issue, as is usually the case, working groups are established, made up typically of three or four experts. The terms of reference for the working groups are agreed upon by the experts and the IGOs. One of the IGOs sponsoring the intersessional work will be the "lead agency" and provides administrative and technical support for the experts. The lead agency will usually be the IGO with interests and internal programmes most closely related to the working group's terms of reference. Because marine pollution problems are intersectoral, IGOs besides the lead agency are inevitably concerned with the activities of the intersessional working groups. Such IGOs may contribute to the lead agency's support and are known as "cooperating agencies."

Before submission to GESAMP, a working group's work product is often circulated for criticism to scientists who are not GESAMP members, further ensuring an intellectually sound result. Also contributing to this goal is the fact the experts receive no compensation for their work. The working group's final report will be presented to an annual session of GESAMP where it will be scrutinized by the entire body, which may request changes. Once adopted by consensus, the report becomes an official GESAMP document and one all the expert members are willing to stand by and member IGOs accept.¹⁵⁴³ The decision whether to adopt the work of a working group is seldom influenced by politics.¹⁵⁴⁴

This method of work has been largely dependent on UNEP, for prior to UNEP's entry into GESAMP, the work was not done intersessionally because of insufficient funds. Rather, the experts sought to give

advice during the week of GESAMP's annual meetings. Today UNEP is commonly a co-sponsoring agency of the working groups and its contributions sustain intersessional work.

GESAMP's 1983-1984 Intersessional Working Groups¹⁵⁴⁵

1. Review of Potentially Harmful Substances
Lead Agency: WHO
Cooperating Agencies: FAO, UNEP
 2. Evaluations of the Hazards of Harmful Substances Carried by Ships
Lead Agency: IMO
Cooperating Agencies: UNEP
 3. Biological Effects of Thermal Discharges in the Marine Environment
Lead Agency: FAO
Cooperating Agencies: UNESCO, UNEP
 4. Interchange of Pollutants between the Atmosphere and the Oceans
Lead Agency: WMO
Cooperating Agencies: UNEP, IAEA
 5. Land-Sea Boundary Flux of Pollutants
Lead Agency: UNESCO
Cooperating Agencies: UNEP, IAEA
 6. Methodology and Guidelines for the Assessment of the Impact of Pollutants on the Marine Environment
Lead Agencies: FAO, WHO
Cooperating Agencies: IMO, UNESCO, IAEA, and UNEP
-

Some of GESAMP's work has been significant. GESAMP played a fundamental role in developing the generally accepted definition of marine pollution. Its "Review of the Health of the Oceans" published in 1982, provides a valuable tool in understanding marine pollution.¹⁵⁴⁶ A GESAMP working group provides IMO with environmental hazard profiles of substances that IMO uses to update and revise the lists of substances in Annexes I and II of MARPOL 73/78.¹⁵⁴⁷ Furthermore, GESAMP studies receive wide respect from IGOs and the international scientific community.¹⁵⁴⁸ For example, one GESAMP study was used by IAEA in carrying out its work on behalf of the LDC.¹⁵⁴⁹

GESAMP is not empowered to regulate the marine scientific activi-

ties of its members. It can neither set priorities nor settle jurisdictional disputes. Like other coordinating bodies, GESAMP can only coordinate by persuasion. It is not within the power of the experts to unilaterally undertake studies to, for example, close a gap they believe exists.¹⁵⁵⁰ GESAMP does, however, have value as a coordinator. This lies within the discussions it holds after a study proposal is submitted. All member IGOs may debate the proposal's wisdom and the experts may add valuable, independent opinion about the project's necessity and the method by which it ought to be carried out, or whether it can feasibly be carried out at all.¹⁵⁵¹ Once the work is agreed to be worthwhile and a working group set up, GESAMP can helpfully advise the group on methods to bring the project to a successful conclusion.¹⁵⁵² At the 1983 session, UNEP proposed that guidelines on certain matters be established.¹⁵⁵³ In the discussion of this proposal, IOC pointed out that aspects of it had been covered elsewhere.¹⁵⁵⁴ Views were also expressed on the concepts underlying the proposal and a concern for the magnitude of the task was expressed.¹⁵⁵⁵ Though a working group was set up, its terms of reference were narrower than UNEP's original idea.¹⁵⁵⁶ The following year UNEP tabled another proposal that also received critical examination before a working group was established.¹⁵⁵⁷ In fact, questions were raised about the potential overlap of the proposal with ongoing work in other IGOs.

Without GESAMP it is possible, regarding UNEP's 1983 proposal, that UNEP would have gone ahead and set up a programme based on its original proposal, perhaps inadvisably in light of other work in the network and without full awareness of all the project entailed. Though it is true that a proposal for an activity has never been rejected by GESAMP, it is not unusual for GESAMP to restructure or more clearly define a proposed activity.¹⁵⁵⁸

GESAMP provides a forum where the United Nations and specialized agencies concerned with marine pollution meet and discuss matters of mutual interest. It is probably true that the IGOs use GESAMP to discuss informally matters beyond marine science. The exchange of views and information allows each organisation to understand the work in others and this may reduce overlap and enhance cooperation. GESAMP's use of independent experts and its method of work has produced solid scientific work for use by the IGOs and the wider international community. Remarkably, the experts give their time to GESAMP without compensation. This may be an indication of the prestige of GESAMP. There is, however,

a drawback with GESAMP in that it operates slowly. It takes usually two to three years after the creation of a working group for its report to be officially adopted. Nonetheless, by its critical discussion of agency proposals for scientific work and the not uncommon changes made to them, GESAMP furthers positive coordination. As a scientific advisory body set up to assist eight IGOs, GESAMP supplies a useful link in inter-organisational affairs.

5. UNEP's Regional Seas Programme

In Chapter Eight UNEP's RSP was discussed. That discussion included an account of how the RSP sets up a regional action plan. This method will not be recounted. It will, however, be recalled that the development of these plans involve not just UNEP but a number of IGOs, global and regional. For example, MED POL Phase I was organised by ECE, UNIDO, FAO, UNEP, IOC, WHO, WMO, IMO, and IAEA, though all under UNEP's guidance. After an action plan is adopted the IGOs continue, still under a coordinated format, to conduct regional activities, and often in collaboration with one another.

It is the consensus that the RSP has been a success as it has initiated environmental action in ten areas throughout the world involving about 130 states. Some of the regions have adopted framework treaties and some additional protocols on specific sources of pollution. The power of the RSP as a coordinating mechanism is proved by the tangible results achieved under its auspices. These results, however, could only have been attained with the entire system's help.

6. The System-Wide Medium-Term Environment Programme

The SWMTEP is an idea and undertaking of UNEP's and is to help UNEP carry out its coordinative and catalytic functions, set environmental objectives for UNEP and its partners in the United Nations system for the period 1984-1989, and lead to greater unification of programmes throughout the system.¹⁵⁵⁹

The SWMTEP was finalized in 1982.¹⁵⁶⁰ It is organised into fifteen programmes that are to be revised every two years by UNEP's Governing Council.¹⁵⁶¹ One of the programmes is "Oceans."¹⁵⁶² Most of the fifteen programmes contain two or more subprogrammes.¹⁵⁶³ One of the sections in the subprogrammes sets forth "the system-wide strategy and focuses on the major activities that the system will be addressing in the period 1984-1989...and those activities which UNEP, with its partners, will concentrate on over the same period."¹⁵⁶⁴

To be effective the SWMTEP required, during its formulation,

intensive cooperation of all the global IGOs with environmental programmes.¹⁵⁶⁵ There is some doubt whether this was achieved:

It is unfortunate, if not surprising, that [Dr. Tolba, Executive Director of UNEP] is at no stage prepared to openly say that the failure of the SWMTEP processes is due to the failure of the UN agencies to cooperate in the preparation of these plans. In those cases where meetings have been called for that purpose, most of the agencies have not bothered to attend and those who have done so did not wish to commit themselves.¹⁵⁶⁶

Perhaps the agencies view the SWMTEP as another coordination effort that will require a significant amount of time and money and bear too little fruit. Perhaps they are skeptical of it because with it UNEP might develop a directive role, stepping beyond its coordinative functions. At the 1980 meeting of UNEP's Governing Council the representative of UNESCO, reportedly speaking on behalf of the IGOs involved with the SWMTEP, said coordination difficulties are not due primarily to the absence of a system-wide plan.¹⁵⁶⁷ If UNEP views a system-wide plan as a means to bring the United Nations system closer together and if other IGOs do not share this view, the SWMTEP will have limited effectiveness. Carrying out the SWMTEP will cost considerable money and governments may not supply the necessary funds.¹⁵⁶⁸

Although the programme has high objectives, an imposing title, and is contained in a 184 page document, its contents do not seem to amount to much. The "Oceans" programme, for example, is divided into three subprogrammes: protection of global marine environment, regional activities for the protection of the marine environment, and living marine resources.¹⁵⁶⁹ An examination of the subprogramme on regional activities will suffice to give an idea of what the other two involve.

The "general objective" of this subprogramme "is to improve regional co-operation aiming at the protection of the marine environment and to promote the development of specific regions through the design and implementation of environmentally sound strategies for the rational development of coastal and land-based resources and activities..."¹⁵⁷⁰ "Specific objectives" are to improve assessment of the causes, amount and effect of environmental problems in regions; adopt legal, institutional, financial, and technical arrangements for regional cooperation; and improve regional cooperation in development planning.¹⁵⁷¹ To meet its objectives the subprogramme outlines the 1984-1989 strategy: establish regional action plans, formulate and promote the adoption of legal instruments for the environmental management of regional seas, develop agreements to take account of LOSC principles, and establish sound assessment

of regional seas.¹⁵⁷²

The objectives and strategy of the "Oceans" subprogramme on regional activities are sensible but hardly novel. Implementation is to be carried out through fifteen "main activities."¹⁵⁷³ It is here that one would hope to find new ideas for controlling marine pollution and enhancing coordination. But the implementing activities are not new and are simply described in one or two lines. Along with the activity, an IGO is named with responsibility for it. To illustrate, some of the activities are: regional programmes for marine science - UNESCO/IOC; training programmes on marine pollution and pollution control - WHO/UNIDO/FAO/UNESCO; monitoring the transfer of pollutants between the air and oceans - WMO; and organising regional and subregional arrangements to deal with oil pollution incidents - IMO.¹⁵⁷⁴

The IGOs named as responsible for each activity are already doing such work and will continue to do so with or without the SWMTEP. IGOs are not legally obligated to adhere to the SWMTEP.¹⁵⁷⁵ Rather than being a system-wide plan to unify the global IGO programmes, the SWMTEP seems far more a document merely stating what IGOs are already doing, without suggestions on how the work might be more effectively accomplished through better coordination. Although the Programme will be periodically evaluated to determine if its objectives are being met,¹⁵⁷⁶ it is so broadly written that an analysis of its implementation and affect may be impossible.¹⁵⁷⁷

This does not mean that the SWMTEP is completely without value for better coordination. Its value, however, does not lie in its purpose of setting environmental objectives and unifying environmental programmes, which it is unlikely to accomplish. It may, on the other hand, succeed in contributing to better implementation of UNEP's coordination and catalytic functions by its very formulation, which probably aided UNEP to better understand what is being done by what IGO and what is not being done. This information should help UNEP determine areas where coordination is most needed and where it might usefully take catalytic initiatives. For other IGOs, formulation of the SWMTEP probably contributed to more awareness of what the participating IGOs are doing, and enhanced coordination in marine pollution affairs may flow from this.

7. Non-Institutionalized Coordinating Machinery

a. Introduction

A good deal of the formal coordinating apparatus described above

has failed to bring significant coordination to the network of IGOs concerned with marine pollution. But beyond this machinery lies a wide range of coordination tools. These may be referred to as non-institutionalized. This machinery is extensively used by global and regional IGOs and has probably resulted in considerable cooperation and more success than institutionalized mechanisms. Categorizing the non-institutionalized tools is possible if broad areas of delineation are used. What follows is such a categorization, each containing a short description of the category and examples of its use.

b. Meetings and Joint Sessions

Meetings between secretariats frequently occur, as do meetings between legal and scientific advisory groups. The subject matter of the joint meetings of technical bodies is closely defined, whereas inter-secretariat meetings may have a particular item for discussion or be wide ranging. Examples of meetings are common.

The Paris Commission has met with the EEC Commission to examine their relationship and discuss measures to deal with overlap.¹⁵⁷⁸ In 1983 an inter-agency meeting on radioactive waste disposal into the sea was attended by experts nominated by six IGOs.¹⁵⁷⁹ In 1981 representatives of the LDC Secretariat, UNEP, and the Oslo, Paris, and Helsinki Commissions met to discuss the role and future direction of regional and global dumping conventions and the effectiveness of past coordination.¹⁵⁸⁰ Experts from regions in the RSP gather to discuss particular issues.¹⁵⁸¹ UNEP sponsors periodic Inter-Agency Meetings on the Regional Seas to provide a forum for a general exchange of views and to which secretariats of all global and regional marine environment treaties are invited.¹⁵⁸² The ECE and UNEP hold periodic inter-secretariat meetings on environmental problems in the ECE region.¹⁵⁸³ The ECE annually holds a meeting -- to which about twenty secretariats come -- on water pollution and related water questions to develop better relationships and avoid duplication.¹⁵⁸⁴ Since the Stockholm Conference the Executive Directors of the United Nations regional economic commissions commonly convene meetings prior to global conferences to formulate concordant proposals on pertinent issues.¹⁵⁸⁵

Despite the prevalence of these meetings, it may be asked what good they do. This is difficult to answer. Some may be entirely sterile affairs. Yet it may be that ostensibly inconsequential meetings have benefits that are not readily detectable. Meetings surely enhance knowledge of another IGOs programmes and philosophies and knowledge is

the first step to coordination. The meetings may contribute to developing personal understanding and respect among secretariats. The large number of meetings may at least represent the awareness of international civil servants of the possibility of overlap and an attempt to satisfy coordination duties.

The use of joint sessions as a coordinating mechanism is not widely used. It is limited to bodies established by marine pollution treaties. Holding joint annual meetings are the Paris and Oslo Commissions and the contracting parties to the Barcelona Convention and its Protocols. Joint sessions of the Oslo and Paris Commissions discuss the Joint Monitoring Programme, administrative matters, and issues of mutual interest. Such a mechanism, along with the joint secretariat of the two Commission's, probably provides the best means of ensuring cooperation between two independent entities. As for the Barcelona Convention and its Protocols, each calls for biannual meetings of their members, but the sessions are all held together, facilitating coordination under all the instruments.

c. Joint Committees and Programmes

A common coordinating tool is combining the resources of two or more organs to plan and carry out specific work. Joint working groups might be established because one IGO is unable to do a satisfactory job alone or because both IGOs have a similar objective and the most economical way to reach it is through cooperation.

An example is the Joint Working Group on Incineration,¹⁵⁸⁶ convened by the LDC Consultative Meeting and Oslo Commission to prepare provisions for the control of incineration at sea. The Paris Commission is considering whether to assess the effectiveness of present agreements on radioactive waste disposal, but recognising the experience of other bodies, has discussed with the NEA the possibility of a joint working group.¹⁵⁸⁷ One might also recall the extensive cooperation that goes on within the RSP, which involves a number of particular projects being jointly carried out by numerous IGOs. All of GESAMP's intersessional work is sponsored by at least two IGOs. Other examples of joint activities include several IOC/UNEP undertakings,¹⁵⁸⁸ including the river inputs to ocean systems project;¹⁵⁸⁹ IAEA's International Nuclear Information System in which thirteen IGOs participate;¹⁵⁹⁰ a manual on air pollutants prepared under the auspices of WHO/EURO and the ECE;¹⁵⁹¹ the IAEA/IMO issued guide on "Safety Considerations in the Use of Ports and Approaches by Nuclear Merchant Ships;"¹⁵⁹² and the ECE/UNEP/WMO Programme on Long-Range Transmission of Air Pollutants in Europe.¹⁵⁹³ Lastly, mention may be made of

the Ecosystem Conservation Group, composed of UNEP, FAO, UNESCO, and IUCN, that meets once or twice a year to coordinate the conservation activities of its members.¹⁵⁹⁴

d. Informal Consultation

Informal consultation might include a request for information on a specific matter and involve a simple exchange of letters. More in-depth requests for assistance also occur. For example, the Oslo Commission is considering what to do with the danger posed by anti-fouling paints on pleasure boats¹⁵⁹⁵ and has asked WHO and FAO for help and these agencies have agreed to assist.¹⁵⁹⁶ The Paris Commission has turned to the International Council for the Exploration of the Sea for advice on certain technical matters.¹⁵⁹⁷ Because the Oslo Commission has considerable experience with reports ODC parties must submit on dumping practices and monitoring, UNEP has sought for use in its RSP the advice of the Oslo Commission on reporting procedures.¹⁵⁹⁸ UNEP has also gone to the LDC Secretariat for the same purpose.¹⁵⁹⁹ In developing the Baltic states' ability to combat pollution caused by maritime incidents, the Helsinki Commission has studied other regional arrangements.¹⁶⁰⁰

e. Harmonized Reporting and Procedures

A number of marine pollution control treaties require their parties to submit reports on their polluting practices, efforts to control them, and monitoring programmes. Some treaties require certain steps be taken under certain circumstances and, if the procedures are harmonized throughout the network, ease of compliance by states party to several conventions will result. For example, at an LDC Consultative Meeting, secretariats of the ODC and Barcelona Convention proposed that the ODC's Prior Consultation Procedure -- to be used by states intending to dump certain hazardous wastes -- be acceptable to satisfy the LDC prior consultation requirements.¹⁶⁰¹ This was essentially agreeable to the LDC Consultative Meeting.¹⁶⁰² The LDC and ODC have not only harmonized certain notification requirements,¹⁶⁰³ but also their general reporting duties on dumping practices.¹⁶⁰⁴ Furthermore, a state party to both a regional dumping treaty and the LDC need only submit its general dumping reports to the regional secretariat, which will in turn forward them to the LDC Secretariat.¹⁶⁰⁵

f. Exchanges

Exchanges may involve personnel, documentation, reciprocal representation at one another's meetings, and direct reports by one IGO to another of the former's activities. Exchange of documentation is a

widespread practice. Whether the voluminous documentation gets read by the proper individual and in time to make a difference, is another matter. Reciprocal representation at meetings is also a standard practice.¹⁶⁰⁶ Sixteen IGOs, for example, attended the ECE's 1983 annual meeting.¹⁶⁰⁷ Of course, with the expanding number of IGOs and growing programmes it is "important to concentrate such observation missions in those areas where there is a real possibility of mutually beneficial adjustments of work..."¹⁶⁰⁸ This method of coordination can have direct benefits. For example, the Secretary of the Paris Commission attended a meeting of OECD that discussed annual reports on mercury pollution. OECD proposed that states submit such reports every three years, but when the Paris Commission Secretary explained that under the Paris Convention states must submit similar reports every four years the OECD decided to require the reports every four years as well.¹⁶⁰⁹ The extent of attendance by one IGO at another's meetings is illustrated by figures in WHO/EURO's recent annual reports. In 1982 WHO/EURO received 233 invitations to meetings (81 from IGOs in the United Nations system, 75 from other IGOs, and 77 from NGOs) of which 187 were accepted.¹⁶¹⁰ In 1981, 248 invitations were received of which 149 were accepted.¹⁶¹¹

Exchange of reports allows state representatives to an IGO to quickly gain an overview of the work going on in other IGOs. This coordinating mechanism is illustrated by the Oslo Commission's habit of submitting a report on its recent activities to the LDC Consultative Meetings. UNEP sometimes does the same.

Exchanges of personnel is illustrated by UNEP's having assigned personnel to the ECE to support ECE environmental work.¹⁶¹² ICSPRO members second staff to IOC.¹⁶¹³

g. Liaisons

The use of liaisons is the placement of an individual of one IGO at the headquarters of another to ensure that the sending IGO is aware of what goes on in the receiving organisation and to provide a representative of its views. All specialized agencies maintain a permanent liaison officer at the United Nations Secretariat. IAEA and WHO have an arrangement for the mutual appointment of liaison officers to ensure that plans in related fields are coordinated.¹⁶¹⁴ The IAEA also has a liaison officer at WMO.¹⁶¹⁵ The practice also occurs at the regional level. The Council of Europe has a liaison office at the EEC¹⁶¹⁶ and the OECD and the Council of Europe have a liaison committee for coordination.

h. Miscellaneous

An IGO may unilaterally conduct its work in a manner that promotes coordination. When WHO and UNEP began developing guidelines for a Mediterranean protocol on land-based sources, they realized their joint knowledge of the nature and sources of land-based pollution was incomplete and consequently the ECE, UNIDO, IAEA, FAO, and UNESCO became involved in the preparatory work.¹⁶¹⁸ The Paris Commission set up a Working Group on air pollutants with terms of reference that included the duty to "examine which other national and international bodies deal with atmospheric inputs to Paris Convention waters, and in which manner..."¹⁶¹⁹ After the LDC Consultative Meeting changed the LDC definition of "significant amount" for certain wastes, the Oslo commission changed its definition to conform with the LDC.¹⁶²⁰ On the other hand, the LDC Consultative Meeting, in considering adoption of guidelines and definitions, has relied on work done by the Oslo Commission.¹⁶²¹ The Helsinki Commission has relied on the work of IMO to develop the Helsinki Convention.¹⁶²² Each year the Council of Europe takes it upon itself to debate OECD's annual report.¹⁶²³ The Mediterranean states, in implementing the Mediterranean Action Plan, have often sought the assistance of work done elsewhere.¹⁶²⁴ Some of the examples provided above under "Informal Consultation" are also instances of an IGO taking unilateral steps to ensure collaboration.

Some other means of ad hoc coordination are exchange of letters,¹⁶²⁵ aide-memoires,¹⁶²⁶ memorandum of understanding,¹⁶²⁷ and formal cooperation agreements.¹⁶²⁸ These might set forth a general agreement that the signatories are committed to close cooperation and will seek closer coordination, or may be more detailed and address coordination in particular subject areas.

A typical practice in most global IGOs is to maintain a division on coordination matters.¹⁶²⁹ A senior member of such a unit in FAO has said that a major part of his job was to "'comb all ECOSOC resolutions for their FAO implications.'"¹⁶³⁰ An individual in IMO is responsible for studying all resolutions, decisions, and recommendations of specialized agencies.¹⁶³¹ Those that affect IMO are circulated to the relevant division of IMO for review.

C. Conclusion

A number of bodies exist to coordinate the marine pollution work

of IGOs at the global level. The General Assembly and ECOSOC have not proved effective and the ACC has not fulfilled the hopes that brought it into existence. After seventeen years of attempting to coordinate ocean matters, the ACC's Sub-Committee on Marine Affairs was abolished. DOEM, however, may be able to contribute. ICSPRO suffers a serious credibility problem, and, while GESAMP produces sound scientific work, it plays only a limited coordinating role in a limited sphere of marine pollution, and its role in developing international environmental law of the sea is peripheral. The SWMTEP seems only capable of contributing indirectly to coordination. UNEP's RSP, however, is an effective coordinator and has contributed substantially to the development of international law. There are several reasons why the RSP has had the success escaping other coordinating institutions.

One, UNEP and the RSP have a clear mandate to coordinate. The General Assembly has many political concerns and ECOSOC has duties beyond coordination and itself implements programmes. ICSPRO is a support mechanism for IOC. GESAMP is a technical advisory body. The ACC, like the RSP, has been set up only to coordinate, but it differs from the RSP in that it is to coordinate everything. The RSP, on the other hand, has a clear coordination mandate directed only at marine pollution. Two, because the RSP's personnel are qualified in marine pollution and the law of the sea, its suggestions are probably sounder than other bodies. Also, the RSP is not a coordinating body abstractly making suggestions, for it too functions in the world arena; it too has pollution control programmes it is attempting to implement. It knows the frustrations of other IGOs in trying to operate with limited funds in a world of strained state relations. The RSP, subject to the same difficulties as are other IGOs, is not a theoretical institution, making coordinating suggestions to IGOs without the benefit of understanding their day to day toils. Thus, it may be that the RSP makes pragmatic suggestions. Three, and most importantly, the RSP has money. This makes it different from other coordinating bodies, each of which may offer advice; the RSP offers money with its advice. Able to fund the cooperative efforts conducted under its direction, the RSP has a powerful inducement for gaining acceptance of its ideas.

Have non-institutionalized coordinating mechanisms been more effective than institutionalized coordination? This is difficult to answer. With coordinating bodies one has the tool of annual reports and other documentation. Because of the casual nature of most non-

institutionalized cooperation, it is not only difficult to locate its occurrence but even more problematic to accurately assess its usefulness. The mere fact that executive heads meet, documentation is exchanged, and reciprocal representation takes place is, by itself, meaningless. It would seem, however, that if two IGOs voluntarily initiated cooperation that these efforts will have some effect. Indeed, Professor McRae, in his study of the coordination problems that will flow from implementation of the LOSC, states: "The problems identified here will continue in one form or another, managed more or less successfully on an ad hoc basis."¹⁶³² The flaw of non-institutionalized coordination is that it is wholly dependent on the will of IGOs. Without the impetus of a coordinating body this kind of coordination becomes haphazard. Yet the history of institutional coordination has not been one of continued achievement.

Why do coordinating bodies exist only at the global level?¹⁶³³ There is little reason for permanent inter-regional coordinating bodies, primarily because the regional IGOs deal with different ocean areas. As one of the aspects of coordination is prioritization, it is obvious one region will not allow the states of another to determine what programmes to undertake and how to carry them out. Nor is there much room for rationalization, that is, avoidance of duplication. Scientific studies must be done in all regions and each needs its own regulations.

Only in a few subject areas can marine regions expect to benefit from collaboration. One region, for example, may be able to adapt another's regulations to its own circumstances. Advantages may be gained in sharing information on scientific methodologies and cooperating on intercalibration exercises. But, overall, the potential benefits of inter-regional coordination are too limited to warrant a permanent coordinating institution. Worthwhile cooperation can well be handled with non-institutionalized coordination. There may, however, be better reasons for an overarching body encompassing the various functional and comprehensive IGOs in a single region, such as Europe, where a number of such IGOs exist. But even here the usefulness of a coordinating body may be questioned, a point discussed in the following chapter.

As global IGOs differ from regional IGOs, there is more of a need for institutionalized coordination. Unlike regional IGOs, global IGOs conduct activities worldwide and their subject matter, the world oceans, is the same. As the area of operation is identical, coordination would likely bring benefits. The membership of global IGOs is generally the same whereas it might be completely different from one regional IGO to

the next. Thus, global IGOs all have the same clientele. In these circumstances, setting priorities makes some sense (even if difficult to attain), whereas inter-regionally prioritization makes little sense. Furthermore, the need to avoid duplication is much more apparent for global IGOs than for regional IGOs, for there may be good reasons for two regional bodies concerned with different ocean areas to conduct the same activities, but few reasons for global IGOs not to rationalize their work. Another difference is that circumstances at the global level are far more complex than regionally. Lastly, the legal duties to coordinate are more clearly stated in the constituent instruments of the global IGOs than they are at the regional level.

The above discussion sheds some light on the different functions of coordination at the two levels. Regional IGOs tend to cooperate on specific issues and defined problems. Thus, ad hoc measures are preferred. Global coordination, on the other hand, while also using ad hoc measures for particular issues, recognises a need to coordinate at the policy-making level. Policy-making is an ongoing process. Thus, a permanent coordinating body is seen as appropriate. There can also occur instances of cooperation on a particular project that is complex and of considerable duration, such as the initiative by UNEP in marine regions. Hence, a standing body, the RSP, is needed to carry out such complex coordination projects.

CHAPTER ELEVEN

COORDINATION: ANOTHER VIEW

A. Introduction

It is the thesis of this chapter that the coordination issue, as it concerns IGOs addressing marine pollution, has received undeserved attention. More coordination goes on than is generally recognised. There is no need for more coordinating bodies among global IGOs, nor is there a compelling need for them within any particular region or between regional IGOs, nor between regional and global IGOs. It may even be questioned whether poor coordination is necessarily an evil and whether a fully coordinated network will bring a better result than can an ad hoc response.

B. The Prevalence of Coordination

In Chapter Two a range of opinion from outside of and within IGOs was presented that coordination is a problem. Such a view, though widespread, is not unanimous. "In general, international environmental bodies are more cooperative than 'feuding.'"¹⁶³⁴ "[I]t is generally recognized in the UN system that coordination in the field of marine science has in fact been better than in almost any other field of inter-agency interaction."¹⁶³⁵ It has also been said that coordination "seems to have worked much better with regard to the ocean than in virtually any other field I have encountered."¹⁶³⁶

A United Nations Secretariat study of the marine affairs activities of the United Nations and specialized agencies during the 1982-1983 biennium provides insight into the amount of coordination that occurs.¹⁶³⁷ Though the study's failure to clearly define its subject -- "marine affairs" and "programme activities" -- renders some of its conclusions unclear, it is nonetheless apparent that considerable coordination takes place. The study began by examining programme mandates, usually governing body resolutions, to determine what sort of action they called for. This information is on pages 223-224 and reveals coordination is the most commonly called for action in the field of marine pollution and conservation.

The most prevalent means IGOs use to actually carry out activities is sponsoring intergovernmental meetings, 42%, but undertaking cooperative

COPA STUDY OF INTERGOVERNMENTAL MANDATES FOR ACTION¹⁶³⁸

Issue Area	IGOs with Operative Mandates	Means of Action Called for in Over 20% of Operative Mandates
Legal	U.N., IMO, FAO, ILO, UNESCO/IOC, WMO	Reports (16), intergovernmental meetings (11), standard-setting (10), coordination (10), surveys (7), model legislation (7)
Policy and Management	U.N., FAO, UNESCO/IOC, ILO, IMO	Reports (20), coordination (17), intergovernmental meetings (12)
Living Resources	FAO, U.N., ILO, WMO, UNESCO/IOC	Coordination (22), reports (19), intergovernmental meetings (13), surveys (11)
Non-living Resources	U.N., WMO, ILO, UNESCO/IOC	Reports (6), ongoing research (4), coordination (4)
Use of Ocean Space		
Regulations and Control	IMO, U.N., FAO	Standard-setting (7), model legislation (4)
Other aspects	U.N., WMO, ILO, WHO, ITU	Reports (51), intergovernmental meetings (25) coordination (25), expert groups (23)
Conservation	U.N., FAO	Coordination (10), reports (8), surveys (6) standard-setting (6), intergovernmental meetings (5), expert groups (4), model legislation (4)
Control of Pollution	IMO, U.N., UNESCO/IOC, FAO, WMO	Coordination (12), reports (11), standard-setting (10), ongoing research (9)

Knowledge	UNESCO/IOC, WMO, U.N., FAO, ITU	Reports (50), coordination (46), expert groups (38), ongoing research (33), inter- governmental meetings (28)
Supporting Services	WMO, UNESCO/IOC, U.N., FAO, ITU	Reports (32), coordination (26), expert groups (38), manuals (25), intergovernmental meetings (19), publications (19)
Industry	U.N., FAO	Surveys (2), reports (1), networks (1)

action with other IGOs figured in 41% of the ways by which IGOs carry out their mandates.¹⁶³⁹ In the area of "control of pollution" coordination is the most common method used to carry out activities.¹⁶⁴⁰

The study also considered how the United Nations and the agencies coordinate with IGOs and NGOs outside of this network. This inter-action is "characterized by a high degree of co-operation...Of programme activities identified, 26 per cent are reported to involve co-operation with...[NGOs] and 28 per cent with non-United Nations [IGOs]."¹⁶⁴¹

As a general conclusion to its analysis, the United Nations Secretariat said:

It might be expected that duplication and overlap would occur in the areas of marine affairs because of the natural interrelationships among the issues dealt with by the various organisations of the system. In practice, the analysis shows that procedures exist to agree on divisions of responsibility and to concert action. To a degree that is greater than in most of the areas in which cross-organizational analyses have been undertaken, marine affairs shows a practical tendency for joint action through bilateral and multilateral agreements among agencies.¹⁶⁴²

This study, the quotes at the outset of this section, and many examples of non-institutionalized coordination provided in the previous chapter give a significantly different perspective on coordination than the opinions presented in Chapter Two. As it is submitted that coordination of marine pollution programmes may well be adequate at present, the question arises why there is such a divergence of opinion.

One, the formal coordinating bodies -- ECOSOC, the General Assembly, the ACC, ICSPRO -- that on the whole have failed, have a high profile and thus receive considerable attention. Yet much constructive cooperation is ad hoc and necessarily less well known. Two, complementary activities may be mistaken as overlapping or duplicative. IGOs sharing common fields of interest do not, per se, have overlapping work programmes.¹⁶⁴³ Many programmes have similar titles but whether they actually overlap requires scrutiny of programme details and the manner in which they are carried out. Such analysis may reveal slight differences in methodology and objective that make each project distinct, legitimate, and not in need of rationalization. In 1974 Dr. Brown referred to the bewildering number of IGOs working on air pollution, but then said many of these follow different but complementary approaches and that there is a fruitful interaction between them.¹⁶⁴⁴ Professors Kiss and Chayes have made similar comments on seemingly similar activities.¹⁶⁴⁵

C. Coordination: A Misguided Goal?

For all the calls for enhanced coordination, there is insufficient reflection on the disadvantages this might cause. A need to "fill the gaps" is often posited as a rationale for greater coherence among IGOs. What these gaps might be is seldom enumerated. A United Nations Ad Hoc Working Group on Coordination said that a part of coordination is the allocation of resources to "'areas in which the needs and opportunities for international action are greatest.'"¹⁶⁴⁶ Where are the needs greatest in the law controlling marine pollution? And for any such gaps that might exist, which present opportunities for international regulation?

Exploitation of the deep seabed has not yet begun, but when mining starts under the LOSC the ISBA, which has competence over this activity, will probably have adopted environmental regulations. Dumping at sea, including incineration, is regulated by the LDC, and ship pollution is well covered by MARPOL 73/78. Although offshore mineral recovery is not covered by a global convention, MARPOL 73/78 has provisions regarding it as does the ODC and Paris Convention. Nor is this gap in the legal regime overly distressing because this activity contributes only marginally to marine pollution and is conducted by only a few states, at least some of which have environmental regulations that are probably as strong as those to which any international conference might agree. Furthermore, these activities are often conducted some distance from valuable coastal waters. The topic of interest today, radioactive waste disposal, is being addressed by several IGOs. Air pollution is regulated by the ECE Convention, to which states that produce most air pollution are parties. Land-based pollution is the remaining source and is not controlled by a global treaty and thus a gap exists. Yet, as the United Nations Working Group, quoted above, accurately said, resources should be directed not only where the needs are greatest but also where opportunities for action are greatest. The exceptional difficulties in controlling land-based pollution have been discussed and one must wonder whether a reordering of priorities directing the resources of IGOs to the land-based pollution problem would be able to do much with it. And, as far as Europe is concerned, there are a few agreements regarding this source; the Paris Convention, the Helsinki Convention and the Athens Protocol. In many other parts of the world, land-based pollution is not a pressing international problem. Also, the RSP includes over 130 states and each Action Plan

has as its aim the regulation of all sources. As the Plans develop, existing gaps may be filled.¹⁶⁴⁷

Therefore, there are few gaps in the legal regime. Granted, it is hardly satisfactory, but it does provide a reasonably sound framework and it may be all that is politically possible today. For land-based pollution, the problem is too intractable to consider a universal treaty controlling it and any new coordinating body, any reordering of priorities, and any change in the direction of programmes cannot change the hard economic and social facts of land-based pollution.

Even if this position is erroneous and gaps do exist that may feasibly be filled, would not a redirection of organisational resources to fill the gap open a gap elsewhere? Doing all the work that needs to be done seems to have as its premise that there exists the wherewithal to accomplish it all. But the human and financial resources of the organisational network are distinctly limited. States give IGOs only limited funds, but a part of which can be directed to marine pollution. Only if prioritization is accompanied with additional funding will it likely lead to an improved marine environment. For example, the Paris Convention will likely be amended to include air pollution. This can be properly viewed as the wise closing of a space in the legal regime. Yet, as the move is unlikely to be accompanied with more money, it will divert attention and funds from the Paris Commission's primary purpose, the control of land-based pollution.

Just as plugging gaps may not be beneficial as would initially appear, perhaps duplication and overlap are not as bad as thought. Is it necessarily harmful that two IGOs work on the same marine pollution problem at the same time? Perhaps the inevitable competition will bring projects to a quicker conclusion and produce a sounder product.¹⁶⁴⁸ Perhaps the different perspective and talent each IGO brings to the same problem will lead to a better result.¹⁶⁴⁹ Dr. Brown, in discussing components of conventional environmental law, states: "The fora of these acts varies from the merely recommendatory resolutions...of the Council of Europe to the Directives of the EEC which bind states as to the end to be achieved...[T]he interaction between these various, and at first sight overlapping efforts can be productive of more effective results."¹⁶⁵⁰

Whereas some inefficiency may not weaken the network, centralization may. The assumption that central direction is always better than a more diffuse decision-making structure may be doubted.¹⁶⁵¹ Dr.

Sharp has said that some agencies have exercised "imaginative experimentation" and adds that this might not have happened had they been subject to control by ECOSOC or the General Assembly.¹⁶⁵² Furthermore, constitutionally centralized systems, such as the United States, do not ensure complete functional orderliness.¹⁶⁵³ There has been considerable discussion about placing the numerous marine pollution agreements covering the North Sea within a comprehensive treaty or forum. While the current Netherlands government believes an umbrella agreement has some merit, it also recognises that "this could lead to highly complex negotiations that served only to slow down the progress of such consultations."¹⁶⁵⁴

If IGOs are deprived of some of their environmental activities or pushed into reordering such work, perhaps they would take less interest in it. It seems natural that any institution would pay less attention to the work it does not have full control over. For the preservation of the marine environment, it may be better that most IGOs eagerly entered the environmental field, but detrimental if control of their environmental work is taken from them.

The advocates of better coordination proceed on the premise that more coordination will result in cleaner seas, yet this assumption is not necessarily valid. For example, UNEP, the LDC Consultative Meeting, and IAEA are all considering aspects of the seabed emplacement of high level radioactive wastes. This diffusion could be tidied by designating the IAEA as the sole body to consider this problem. But if the opinion is true that IAEA is insufficiently environmental, what has been gained in coordination may be an environmental loss. Were UNEP given full competence in this matter would it alone have sufficient funds to do the work and keep all of its other programmes going? And would industrialized states contemplating seabed emplacement follow UNEP's lead in this area? Perhaps mixing the problem in these three IGOs will produce the best result.

Part of the rationale of the call for coordination is that lack of cooperation saps the system of resources. But lack of coordination may not be as wasteful as is thought and it must be asked what coordination itself costs. Time and money invested in the pursuit of coordination deprives substantive work of valuable resources. The 1985 budget of the Oslo and Paris Commissions is 264,000 pounds,¹⁶⁵⁵ a paltry amount considering these bodies are to regulate dumping and land-based pollution in the Northeast Atlantic. If more than a bit

of this money is spent on coordination the Commission's substantive work would have to be curtailed. The Council of Europe receives less than 25 million pounds a year, a budget about half the size of the city where its headquarters are located, Strasbourg.¹⁶⁵⁵ The LDC Secretariat comprises one man at IMO giving less than 40% of his time to LDC matters. He can hardly be expected to attend all the relevant meetings and read all the documentation. In 1979 IAEA's preliminary budget for nuclear waste disposal was \$1,372,000 while United States spending for the same year was projected at 445 million.¹⁶⁵⁶ Had the IAEA not coordinated its waste disposal programme with UNEP, LDC, and NEA, few resources would have been lost. Had it extensively coordinated with these bodies it may not, in the end, have had much of a project. How much did it cost, in money and time, for WHO/EURO to prepare for and attend 187 meetings in 1982?¹⁶⁵⁷ IMO's Marine Environment Division complains that it receives so many questionnaires about its work from other international bodies that it does not have time to respond to them all.

The points here are two. One, because the resources states give IGOs to carry on marine pollution work are small, any failure to cooperate closely with other IGOs probably causes little depletion of resources. Two, because of limited resources, pursuit of coordination must, at some point, become an evil. That point is reached when coordination produces too little to justify the loss of time and resources taken from substantive work.¹⁶⁵⁸ One commentator says: "I seriously question which costs more: duplication or coordination."¹⁶⁵⁹

Some IGOs seem aware of this problem. The Helsinki Commission, for example, requested its Secretariat to study the possible forms of cooperation with other IGOs, but added that the study should consider the economic consequences of such cooperation.¹⁶⁶⁰ In reviewing its position on cooperative activities related to the protection of marine living resources, UNEP said "the co-ordinating mechanisms, and the concomitant expenditures, will be kept to a minimum..."¹⁶⁶¹ The Mediterranean states, in their implementation of the Mediterranean Action Plan, have often called for economical coordination mechanisms¹⁶⁶² and noted that coordination can be costly.¹⁶⁶³ Even an organ of the ACC has expressed "its concern regarding the proliferation both of decisions of intergovernmental bodies calling for inter-agency consultations or meetings and of the number of requests of bodies outside the United Nations system for meetings with...organisations of the system..."¹⁶⁶⁴ "[T]he energy which has been devoted to...coordination has reached excessive proportions to the point where it is imposing serious stresses

on programme execution which suffers from too great a diversion of effort on the part of policy-makers and the managers of the system."¹⁶⁶⁵

A final point to be made is that coordinating bodies and machinery are themselves a kind of organisation and their presence further clutters an already full arena of IGOs. Coordinating bodies may themselves develop vested interests and fail to keep their raison d'etre in view and, indeed, this sometimes happens.

Observations have been made that "there may be a manifest need to coordinate the coordinators,"¹⁶⁶⁶ and "[s]ometimes it seems that it may be more difficult to coordinate the coordinating bodies than to coordinate the Agencies themselves."¹⁶⁶⁷ These are not facetious statements; examples of their truth are prevalent.

ECOSOC and the General Assembly are two central coordinating organs, yet there exists duplication and an unclear division of authority between them.¹⁶⁶⁸ The relations between ECOSOC and the ACC have not always been amicable.¹⁶⁶⁹ It was some time before the ACC and ECOSOC's primary coordinating body, the CPC, agreed to hold joint meetings to provide for a collective dialogue and exchange of views.¹⁶⁷⁰ However, "ACC shares the concern expressed by CPC that the Joint Meetings have not fulfilled their potential."¹⁶⁷¹ There has been some question of overlapping activities between committees of the ACC and other coordinating bodies.¹⁶⁷² There is even the possibility that the ACC's two main committees do not adequately coordinate between themselves.¹⁶⁷³

The ACC Sub-Committee on Marine Affairs had to spend time coordinating its work with other coordinating bodies.¹⁶⁷⁴ It was not, however, always successful in doing so. There was, for example, some overlap between its work and ICSPRO's.¹⁶⁷⁵ It is also revealing that the Sub-Committee's Terms of Reference required it to "[m]aintain close collaboration as appropriate with other relevant co-ordinating bodies..."¹⁶⁷⁶

UNEP has set up regional offices to represent it and cooperate with regional representatives of IGOs.¹⁶⁷⁷ Within the United Nations regional economic commissions there are Environmental Coordinating Units (ECUs), established with UNEP's support.¹⁶⁷⁸ Functions of the ECUs include maintaining a liaison between the economic commission they serve and UNEP regional offices.¹⁶⁷⁹ In 1982 UNEP reassessed this complex coordinating set up and "owing to the costliness of the present arrangements, coupled with a perceived overlap of substantive functions between the UNEP regional office and the [ECUs] in the commissions, an

over-all restructuring of UNEP's regional mechanisms should take place -- a perception shared by most of the regional commissions."¹⁶⁸⁰ This situation is evidence that some coordination is done for the sake of coordination with the consequence that money is wasted and the coordinating design itself becomes incoherent. The episode provides an illustration of Santayana's statement: "Fanaticism consists in redoubling your efforts when you have forgotten your aim."¹⁶⁸¹

At a UNEP Inter-Agency Meeting on Regional Seas "[c]oncern was expressed at the multiplicity of co-ordinating and supervising mechanisms built into the Action Plan, in the form of UNEP regional co-ordinating units, permanent secretariats of regional conventions, monitoring/steering committees set up by the parties to regional conventions, expert technical working groups, etc."¹⁶⁸²

As long ago as 1960, a study of the United Nations stated:

[I]t should be clearly understood that intensified co-ordination must not be at the expense of efficiency, by requiring that the heavy apparatus of interagency co-ordination be put into operation every time something needs to be done. As a matter of fact, some of the existing co-ordination procedures and practices might well be simplified.¹⁶⁸³

If anything, coordination mechanisms have become more complex along with the growing complexity of the entire system.

D. Governmental Disregard for Coordination and the Inappropriateness of Further Coordinating Bodies

It is submitted that the overlapping of environmental activities that does take place does not occur unwittingly. Rather, this possibility is often recognised and a decision nonetheless taken causing overlap, or even duplication.

The Oslo Commission recently decided to study the transfrontier movement of industrial wastes even though it recognised that the EEC, OECD, UNEP, and LDC Consultative Meeting were doing so as well.¹⁶⁸⁴

At a 1981 UNEP meeting on regional seas, some IGOs asked UNEP to reduce the number of meetings designed to develop and coordinate regional seas action plans. UNEP responded that it is sympathetic with the strain such meetings can put on IGO resources and time, but explained most meetings were called by governments and UNEP was bound by such decisions.¹⁶⁸⁵ UNEP recently decided to continue studies on the environmental impact of sea disposal of radioactive waste,¹⁶⁸⁶ and it cannot be denied UNEP was unaware of the work of the LDC Consultative Meeting and NEA in this field. In 1960 and about 1970, FAO suggested IOC be made a

joint body between it and UNESCO, but the desire of states for "simplicity" contributed to rejection of this idea.¹⁶⁸⁷ Because of a foreseen overlap between the International Commission for the Scientific Exploration of the Mediterranean (ICSEM) and FAO's General Fisheries Council for the Mediterranean, ECOSOC in 1950 recommended ICSEM be abolished. But ICSEM's member states voted overwhelmingly to continue it.¹⁶⁸⁸

The Mediterranean Action Plan contains several components and each has an administering body. Unfortunately, these are not centralized. The Regional Oil Combating Centre is in Malta, The Blue Plan Activity Centre is in France, the Priority Action Plan Activity Centre is in Yugoslavia, the Regional Activity Centre for Specially Protected Areas is in Tunisia, an information centre is planned for Italy, and the overall Coordinating Unit is in Greece. Ideally for coordination the components should be in one place, but politics prevent centralization. Governments desire the prestige of the presence of an international body and the centres were established in the state most interested in the activities of the particular centre. The best arrangement for coordination was secondary to satisfying these considerations.

In conjunction with this discussion of the phenomenon of states' willing acceptance of uncoordinated activities, one might reflect on the provocative statement that "an increasing number of states are not really interested in inter-secretariat co-ordination. Another increasing group of nations even seems to object to a policy-formulating task for secretariats..."¹⁶⁸⁹ This statement is given some validity by the above examples of states, collectively acting as decision-making bodies, knowingly and readily rejecting greater order and coherence. Lack of coordination, therefore, is not always something secretariats stumble into or a reflection of a jealous protection of their interests, but often something into which their member states lead them.

These factors are a notable element in the coordination debate and contribute to the conclusion that the creation of new coordinating bodies is ill-advised, but there are more fundamental reasons for this. One, since history proves they have not been of much help, it is not reasonable to establish more. Two, plenty of bodies exist. The General Assembly and ECOSOC are capable of initiating and carrying out new ideas for improving coordination. For inter-secretariat coordination at the global level, the ACC exists to give overall direction to the United Nations and specialized agencies, and ACC subsidiary bodies, standing and ad hoc, are available for detailed work. Although one is tempted to propose

resurrection of an ACC subcommittee solely concerned with marine affairs, past failures require that the suggestion not be made. Besides, UNEP exists to identify gaps and otherwise coordinate environmental work. UNEP's RSP is effective in the marine environment field and DOEM provides another apparatus for consistent development of environmental programmes. ICSPRO and GESAMP are available to coordinate marine science work. In addition, the array of non-institutionalized coordination at the global level provide useful means of cooperation. Thus, the coordination "problem" is not one of mechanisms but one of desire.

Of course, coordination at the global level is but a part of the issue. Three other aspects are coordination between regional and global IGOs; coordination amongst regional IGOs, that is, inter-regional coordination; and coordination between the IGOs of a single region, that is, intra-regional coordination.

As for the relations between regional and global IGOs, there is a role for coordination allowing for timely exchange of information, particularly when a global institution does a significant amount of work within a regional IGO's field, and vice versa, such as the Consultative Meetings of the LDC and the Oslo Commission. The exchange of information will, for example, allow IGOs at both levels to keep track of one another's scientific work so that duplication can be avoided and knowledge supplemented, and of one another's standards and rules so that they can learn what is an effective regulatory system and perhaps encourage harmonization of regulations. Such harmonization is valuable to ensure states belonging to a global and a regional IGO dealing with the same or similar subject are not bound by different requirements and to encourage the development of more widespread practices that in turn may lead to the creation of a global regulatory system.

But coordination between regional and global IGOs ought not go much beyond such information exchange. In deciding what policies to implement, what studies to undertake, and what regulations to adopt, there is little purpose in coordinating the decisions of IGOs at the two levels. Regional bodies, having been set up to escape global IGOs and do work they proved incapable of doing, will not allow global IGOs to return under the guise of coordination. Regional IGOs will operate more efficiently without the influence of global IGOs in setting their priorities and programmes. Functional regional bodies will be more effective since the member states are far more likely to accept decisions made solely by themselves. Thus, no formal coordinating mechanisms

between the regional and global IGOs is advisable. Necessary coordination can be carried out by the consistent use of various non-institutionalized means.¹⁶⁹⁰

There may be more reason, however, for inter-regional coordination. Two regions, for example, may each have a dumping convention, making exchanges of information on procedures, research, and methods of implementation useful. There is also a use for cooperation between regions to develop compatible methods of scientific research; to avoid unnecessary duplication in areas of research, such as the development of technologies to reduce the discharge of pollutants; and to exchange experiences in environmental management methods including legislation and ecologically sound development planning.¹⁶⁹¹ As UNEP coordinates much of the regional marine work, its RSP is well-suited to provide the mechanism through which advisable inter-regional collaboration might flow. Some regions, such as the Mediterranean and Kuwait Action Plans, have engaged in direct exchange of experiences and methods.¹⁶⁹²

Yet it is to be kept in mind that because of differences in environmental philosophies and in memberships, and because of an overall lack of homogeneity between two regions, it will be difficult to develop relationships. The differences in the physical characteristics of regional seas, and in the kinds and amounts of contaminants entering them, make close inter-regional collaboration less worthwhile. And, of course, when coordination is understood as prioritization, then there can be little room for one region having a voice in the decisions that concern another. Periodic inter-secretariat meetings may be all the formal cooperation needed inter-regionally, supplemented with forms of non-institutionalized means of cooperation.

If such coordination has been insufficient in the past, it may be fair to submit that it will improve. States have been occupied in the past decade with setting up the legal and organisational framework for marine pollution control. Now that most of the apparatus is in place the states will turn to refining it. In doing so, they may increasingly look to the benefits to be gained from inter-regional cooperation.

Intra-regionally the coordination issue becomes more complex, particularly within the Northeast Atlantic where a number of comprehensive and functional IGOs are involved with marine pollution. In other regions the issue is not as pointed. In the Baltic area the Helsinki Commission provides a central body for the orderly development of scientific research and a regulatory system. Likewise with the Athens

Coordinating Unit for the Mediterranean area.

With regards to the Northeast Atlantic, considerable thought has been given to the need for an over-arching body to link the various legal regimes and IGOs, and numerous suggestions have been made how the network might be better organised.¹⁶⁹³ Insofar as marine pollution is concerned, however, reorganising the structure for the Northeast Atlantic may not warrant lengthy discussion. The two most important treaties for the region are the ODC and the Paris Convention and the link between them is solid. There is the Joint Monitoring Programme to coordinate scientific work, joint annual meetings to set general policies, and a common secretariat to keep the Commissions fully aware of the work done under each treaty. This secretariat also administers the Bonn Agreement, placing a third agreement under one roof. As the dumping and land-based pollution arrangements cover 80 to 90% of all marine pollution, a good deal of the work is being well coordinated. Furthermore, the ODC and Paris Conventions each have provisions dealing with aspects of offshore exploitation and if the Paris Convention is amended to include air pollution, as is likely, another marine pollution source would be brought within this effective cooperation set up. The membership of the EEC in the Paris Convention gives the Paris Commission another advantage of having the most important European IGO as a part of it. Consequently, much of the work of preserving the marine environment of the Northeast Atlantic is conveniently located within the Oslo and Paris Secretariat.

CHAPTER TWELVE

CONCLUSION

A. Introduction

There are many sources of marine pollution, from the easily identifiable and relatively inconsequential activities of offshore exploitation to the often indiscernable sources and harmful consequences of land-based pollution. Contaminants of the oceans come from a myriad of man's affairs. Some wastes maintain their chemical composition for decades; others are degraded to harmless substances within hours. The kinds of contaminants are diverse. Vital economic and, therefore, internal political factors affect any endeavour to control marine pollution. Marine science is immature and many ocean processes and their effect on wastes remain unclear. Any attempt to deal globally with marine pollution is confronted with international political issues and jealously protected state sovereignty. Consequently, marine pollution and its solution are complex problems.

The response to marine pollution by the international community has been equally complex. Recognising the limitations of international judicial oversight, states have approached the problem through agreements. The global and comprehensive LOSC is the most recent attempt and follows global conventions on dumping and ship pollution and a number of regional treaties. Most of the marine pollution control treaties rely on a commission, a type of IGO, to administer, implement, and develop the treaty. But the response does not end here, for a number of global and regional IGOs address marine pollution. These organisations are often concerned with similar aspects of the problem but often have distinct programmes and perspectives. This complex organisational response has led to a concern for effective coordination.

B. The Legal Response to Marine Pollution

1. International Claims

National environmental problems are often handled by litigation by which a number of doctrines, such as nuisance, negligence, and public trust have been formulated and elaborated in a wealth of case law. National litigation may also be founded on detailed statutes and admin-

istrative regulations. But recourse to third party settlement in inter-state relations is a limited means by which to respond to marine pollution. This is due not only to the nature of the international legal system but also to the nature of marine pollution.

Ocean areas beyond state sovereignty are unprotected in the sense that if they are damaged by pollution and no state suffers a loss, the polluting state cannot be brought before an international tribunal. Actio popularis is not recognised. A further barrier to international claims is the problem of attributing to a state the acts of its nationals. If attribution does not exist, a state suffering harm has no recourse to an international tribunal against the individual. Individuals can neither use an international tribunal nor be brought before one. If a state did bring an alleged polluting state before the ICJ, it would be confronted with a number of legal problems. Serious questions regarding the degree of harm, foreseeability, and standards of proof would exist.¹⁶⁹⁴

The basis upon which a case would likely be founded are general standards, such as the High Seas Convention's Article 2 reference to "reasonableness" in the use of high seas freedoms, or such a doctrine as abuse of rights. But proving fault under standards expressed in such general terms is difficult. There is even the more fundamental problem of getting a polluting state before a judicial body. States are only subject to third party dispute settlement if they accept it and it is uncommon for them to do so. Recognising such problems, at UNCLOS III, Finland introduced a resolution calling for a conference to conclude a convention "on criteria and procedure for the determination of liability, the assessment of damage, the payment of compensation, and the settlement of related disputes."¹⁶⁹⁵ There seems to be general agreement that these areas require development.¹⁶⁹⁶

Besides legal barriers, the nature of marine pollution significantly restricts the usefulness of using international claims to preserve the marine environment. A damaging marine pollutant is often invisible and its sources too numerous or too widely scattered to permit the attribution of the injury to a single state.¹⁶⁹⁷

Taking a marine pollution problem before an international tribunal is the remedial legal response to marine pollution, but for the reasons presented here, "it is quite obvious that this is a problem that does not lend itself to adequate treatment through international claims..."¹⁶⁹⁸ What is needed is a preventive approach. This may be carried out through the work of IGOs and by the adoption of treaties.

2. Conventions

The marine pollution control treaties that have been concluded make up an impressive group. Concern for the marine environment only arose a short time ago, in the late 1960s. During the 1970s two global conventions, the LDC and MARPOL 73/78 were adopted along with five European treaties: the ODC, Paris Convention, ECE Convention, and the framework Helsinki and Barcelona Conventions. All were adopted within ten years of the environmental awakening and nearly all came into force reasonably quickly. Considering this time period, the economic and political ramifications of ratification, and the doubts about the consequences of marine pollution, the international community is to be commended for its prompt response to marine pollution.

One way to assess the response is to ask if states have taken the fundamental step of accepting that there is a problem. They have. They have also, by adopting these conventions, taken the second step of recognising the need for some international treatment. These beneficial trends, that have been confirmed by the LOSC, enhance the chance for successful international resolution of the problem.

The thesis' examination of the treaties themselves, however, typically found weaknesses in each, and some are substantial. Drawbacks appear in treaty provisions. LOSC duties are usually vaguely expressed. Some conventions include double standards. Numerous exceptions to obligations appear. Other drawbacks involve the manner in which the treaties have been developed. The LDC's Consultative Meeting tends to avoid decisions not only on difficult political issues, such as radioactive waste, but even on fundamental decisions crucial to an effective convention, such as allocation criteria for the annexes. Little has been done to develop the Helsinki Convention beyond ship pollution.

An important question for evaluating these conventions is the manner in which they have been enacted into national law and enforced by national authorities. While the thesis has gone beyond analyzing merely the provisions of the treaties, to the way they have been developed, it has not studied national adoption and enforcement after ratification. And enforcement is "'the crucible of law, the test of its reality.'"¹⁶⁹⁹ A study of how the parties to the conventions have implemented them is needed to complete any evaluation of conventional law. Doubts may be rightly held on whether implementation is adequate. Dr. Brownlie says: "Probably the biggest single obstacle to treaty enforcement is the inability of national administrations in many countries to cope with even

a minimal burden."¹⁷⁰⁰

Despite these problems, the conventions, apart from proving the international community's recognition of the marine pollution problem and the need for some international treatment, exhibit a number of bright spots.

MARPOL 73/78 and its predecessor, the 1954 OILPOL Convention, have contributed to a marked reduction in operational ship discharges. The LDC has limited some dumping that would have occurred without it and has surely prompted states dumping radioactive waste to proceed more cautiously. The ODC has also prevented some dumping and is, like other conventions, a diplomatic tool useful in stopping egregious waste disposal practices. This treaty has also been developed to control incineration at sea as has the LDC. Parties to the Paris Convention have adopted a few regulations limiting land-based pollution. The ECE Convention has brought about a commitment by two dozen countries to significantly reduce sulfur dioxide emissions and has spurred the adoption of an EEC sulfur dioxide Directive and a Canadian-United States acid rain agreement. The Helsinki Convention contributes to controlling ship pollution in the Baltic Sea and perhaps the greatest benefit of the Barcelona Convention is instilling the need for ecological perspectives in the management activities affecting coastal areas and developing the scientific capabilities of less developed Mediterranean states.

If the LOSC comes into force it will give states the opportunity to exercise port state enforcement, a jurisdictional tool capable of considerably reducing ship pollution. The LOSC also gives coastal states some new jurisdictional power over polluting activities in their EEZ. The convention's mandatory dispute settlement procedures may not only contribute to elucidating the many vague terms in the convention, but may, on a broader scale, foster the general development of the international environmental law of the sea. Perhaps most importantly, the unique reference to "international rules," which creates a new source of international law, may result in states being bound by such conventions as the LDC even though they are not party to it.

Thus, the LOSC will contribute to the environmental law of the sea, but it is a mistake to view it as pivotal. Entry into force will not ensure ocean health just as its failure will not doom the marine environment. The convention should be viewed as but one element in the legal response to marine pollution, one that complements other approaches but is not needed to ensure their efficacy. The LOSC's marine environment protection provisions are not revolutionary. The opinion that such pro-

visions "simply reflect the development of customary and treaty law in recent years rather than place new obligations on States or develop new framework for control,"¹⁷⁰¹ is essentially correct.

In addition, if the LOSC does not enter into force, new developments in marine protection will occur. Some of the treaty's provisions will still have an influence, acting as a model for state control,¹⁷⁰² and some may become part of customary law by state practice, such as the articles on port state control. Other provisions may be included in future marine pollution control agreements.

3. Considerations in Evaluating the Legal Response

a. A Complex Problem

In evaluating marine pollution control conventions, one should keep in mind the difficult economic, political, technological, and scientific pressures and problems involved. Many of the failings in the treaties reflect these factors.

Laws...do not grow up in isolation, but mould and are moulded by the politics, economics and geography of the "real world" to which they apply....The actual content of the law of the sea at any given time will, therefore, be a reflection of the underlying pattern of interests in the uses of the sea at that time.¹⁷⁰³

The thesis said little about the varied national interests that shape a convention. This follows the approach of most studies. "The scholarly emphasis remains on the outcome...aspect of the whole process of law development and law changes. The input aspect and the actual process aspect of bargaining and decision-making are generally neglected."¹⁷⁰⁴ International environmental rules must be examined not only in relation to the problem, but also as a product of many policies and influences.¹⁷⁰⁵ It would be unfair to criticize a treaty for not covering points or for weakly covering others, without taking into account the circumstances under which it was adopted.¹⁷⁰⁶ Even among countries with similar values and in a similar stage of development, large environmental problems are difficult to solve. For example, despite the long history of cooperation between the United States and Canada in many areas, including the environment, acid rain still presents an impasse and joint protection of the Great Lakes has been difficult to agree upon. Professor Bilder writes:

The roots of such problems often lie in social forces and attitudes which defy control -- exploitative attitudes towards the environment, economic expansion, population increase, and technological change. Our knowledge of the specific causes and effects of environmental deterioration, scientific, technical, economic, sociological and other; of the multitude

of factors and complex interactions involved; of the optimal and technical and institutional means for remedy; and of the time scales such remedies may require, remains limited, imprecise and uncertain. The costs of effectively coping with environmental deterioration may be substantial. Finally, alternative patterns of solution may alter existing social and economic patterns in different ways, and various groups may consequently have high stakes in the approach chosen. Where environmental issues engage such strongly competing interests, they may transcend science and technology and become deeply involved in the political process.¹⁷⁰⁸

b. Not Necessarily a Global Problem

Although there are considerable weaknesses with the international law for the marine environment, it is helpful to recognise that marine pollution may not be the quintessentially global problem as it is often viewed. The open oceans are clean and while some regional seas are not, they are more resilient than was thought in the late sixties and early seventies. Using the oceans as a disposal resource has detrimentally effected only coastal areas and much of the harm is caused by river pollution. For the most part, the marine interests being damaged are those of the state allowing wastes to be put into rivers and carried to its coastal areas.¹⁷⁰⁹ The consequence is that governments themselves, if they wish, are in a position to resolve many marine pollution problems they suffer. The need for international solutions is not overwhelming. National environmental laws and policies are more important than international ones.

Although this thesis neglects national law and its role in protecting the oceans, there is a good deal of it and at least some of it is effective. National pollution control systems, for example, "have greatly reduced the land-based pollution that would have otherwise reached the seas..."¹⁷¹⁰ In 1973 sulfur emissions in the United States were nearly 29 million metric tons.¹⁷¹¹ By 1979, the year the ECE Convention on Long-Range Transboundary Air Pollution was adopted, the United States had, on its own initiative, reduced sulfur emissions to about 24.5 million metric tons.¹⁷¹²

4. Conclusion

Though national law has an important role to play in protecting the oceans, there are numerous factors hindering its use and effectiveness.¹⁷¹³ Indeed, states have placed considerable hope in international law. What fruits this confidence -- and the action based on it -- will bear cannot now be determined. Despite the weaknesses of marine pollution control conventions, they possess the potential to provide considerable

protection for the marine environment from the sources of pollution they address. Dumping, ship pollution, air pollution, and offshore and deep-sea exploration and exploitation are fairly well covered. The gap in this structure is an inadequate response to land-based pollution. But this is an extraordinarily complex problem and one that only recently arose. Yet, even here, the Paris Convention and the Athens Protocol have broken ground upon which the LOSC may promote the building of a more solid structure. Indeed, the Paris and Athens agreements provide an example that will promote similar agreements on land-based sources in UNEP's Regional Seas Programme. Though beyond the scope of this thesis, there also are a number of international agreements with terms protecting the quality of rivers and lakes.¹⁷¹⁴ These treaties, typically with just a handful of parties, contribute to the law protecting the oceans from land-based pollution.

C. The Organisational Response to Marine Pollution

1. Introduction

IGOs had, at best, modest environmental activities in the 1950s. By the late sixties and early seventies the spirit and pace of their activities changed dramatically.¹⁷¹⁵ In 1969 the CCMS was established by NATO. The following year OECD set up an Environment Directorate and UNESCO's Man and the Biosphere Programme was initiated. In the early 1970s IMO began a dramatic redirection of its work that culminated in giving it the preeminent role in ship pollution. The numerous conventions of the 1970s created institutions for their administration.

IGOs have become increasingly important elements in the international response to marine pollution, a development that moves along with the advancement of the legal response. In fact, IGOs, stimulate such advancement and are stimulated by it. The establishment of commissions exemplifies the meshing of legal and organisational responses.

The functions of the IGOs are varied and may be divided into seven categories.¹⁷¹⁶ By discussing these, the role and usefulness of IGOs in protecting the seas may be clearer.

2. The Functions of IGOs

a. Research

Research programmes by IGOs include monitoring and information collection. Monitoring is the study of ocean conditions to determine the attributes and changes in levels of selected variables.¹⁷¹⁷ IGOs also contribute to the next step which is evaluating and drawing conclu-

sions from such studies. Scientific research is badly needed because of man's ignorance of ocean processes and their relation to contaminants. Information collection involves a much broader but less scheduled collection effort. It goes beyond physical phenomena and includes gathering information on such matters as national environmental law and policy.¹⁷¹⁸

b. Exchange of Information

Not only must research results by IGOs be disseminated to governments and private institutions, but the results of national programmes must also be distributed. Dissemination of information is one of the most important aspects of cooperation in IGOs.¹⁷¹⁹ UNEP has an important responsibility here, one it attempts to carry out through its Information Referral System of Environmental Information.¹⁷²⁰ Other efforts to exchange information include the ECE's Intergovernmental Centre for Documentation on Housing and the Environment, FAO's legislative library that compiles national marine-related legislation, and the IUCN's Environmental Law Information System.

c. Regulation

"This includes the drafting of treaties, agreements, protocols, regulations and recommended practices and procedures to be adopted within... the organisation or recommended to states for...ratification."¹⁷²¹ Regulatory functions also involve amending legal instruments, as is commonly done by IMO under MARPOL 73/78. Of course, the legal status of IGO actions vary, from recommendatory to quasi-legislative to legislative. While only a few IGOs draft treaties, many adopt recommendations and principles. Although the latter are not binding they can have "substantial effect on national policies"¹⁷²² and contribute to the development of international environmental law.¹⁷²³ IGOs also play a vital role in administering marine pollution control treaties. IMO oversees MARPOL 73/78 and the LDC, ECE the Long-Range Transboundary Air Pollution Convention, and the ISBA deepsea mining under the LOSC. UNEP guides the development of regional agreements.

d. Monitoring Compliance

The international community lacks collective monitoring and enforcement capacity. Enforcement rests with states, although some inroads have been made regarding ship pollution and with port and coastal state jurisdiction. Beyond this, the best that can be done is to give IGOs authority to establish procedures that help inform them of state compliance with legal obligations.¹⁷²⁴ The most common mechanism is reporting by states

on their activities.¹⁷²⁵ As seen with the dumping conventions, states are not diligent in complying with their reporting obligations. Without coercive powers, the best tool IGOs have to promote compliance is persuasion.¹⁷²⁶

e. Promotion of Environmentally Sound Thinking and Practice

"This involves the formulation and propagation of demands and the mobilization of support for environmentally sound thinking and practices."¹⁷²⁷ UNEP has an important role here but this function is "rather inadequately performed on the international level."¹⁷²⁸ Here lies a role for NGOs, certain influential states, as well as individuals. One success in this area that IGOs can take some credit for is the general opinion that the environment is no longer a confrontational word opposed to development.¹⁷²⁹

f. Development Assistance and Technology Transfer

Most global IGOs are involved in helping less developed countries improve their environmental laws, management practices, scientific, and technological abilities. This function is important for ending or ameliorating present problems and ensuring poorer countries are able to implement future environmental standards.

g. Providing a Forum for Discussion and Understanding

The ongoing forum IGOs provide states to discuss national environmental policies and possible solutions to marine pollution may engender more understanding and respect among them. This, it is hoped, may facilitate more international cooperation to protect the seas.¹⁷³⁰

Nearly all IGOs studied in this thesis engage in each of these functions, although the degree of involvement with each varies considerably. Regarding research and information exchange, FAO, WHO, WMO, OECD, and ECE have important programmes. The IOC and Oslo, Paris, and Helsinki Commissions, as well as the Mediterranean Coordinating Unit, organise cooperative scientific investigations and share the results with the world. IMO and the EEC carry out regulatory functions. The Oslo Commission and LDC Consultative Meeting monitor compliance of dumping conventions. Promoting environmentally sound thinking and practices is one of the purposes of UNEP, although other organisations, such as OECD, ECE, and the Mediterranean Coordinating Unit are significantly involved. Development assistance and technology transfer work is largely confined to global IGOs and all IGOs provide a forum where opinions can be aired, personal relationships fostered, and the ideal of international goodwill promoted.

The organisational response, therefore, goes on at various levels

involving varied functions. The response is interdependent and complex. It is also important, and it is difficult to imagine the world without the presence of these bodies. If they did not exist today, most would be established tomorrow.

The LOSC promotes the role of IGOs in protecting the marine environment. Numerous provisions in the marine environment section refer to the "competent international organisation" wherein states are to develop international environmental law. But as with the conclusion made above of the LOSC's affect on international law, the role and usefulness of IGOs does not depend on the LOSC coming into force. Without the convention, they will likely be used as the LOSC envisions. With it there are "few significant opportunities for marine-related IGOs to develop major new programmes and responsibilities."¹⁷³¹ What the convention does is contribute to the trend of reliance on IGOs.¹⁷³² If the LOSC comes into force it will neither revolutionize the use and efficacy of IGOs in marine pollution control, nor will its failure necessarily diminish their influence.

3. Conclusion

Like international law, the IGOs active in marine pollution have many failings. But it would be unfair to concentrate on the failings of one organisation or the weaknesses of one commission without recognising they make up a system that, working together or independently, contributes to marine pollution control. It would also be unfair to concentrate an evaluation of IGOs solely on their contribution to international law. Although this thesis necessarily emphasized regulatory functions, international law is only a part of what is needed to protect the seas. Assisting less wealthy states is crucial, promoting the environmental perspective is an essential first step to solid environmental law, as is facilitating a cooperative spirit. Data and knowledge are required and must be widely disseminated.

As the programmes of IGOs are generally oriented to understanding pollution problems, it will take time to produce results.¹⁷³³ It is also difficult to assess other IGO activities, such as dissemination of information, recommended principles and policies, and suggested technical solutions. One ascertainable accomplishment of the IGOs is their contribution in giving the pollution issue lasting political and scientific credibility.¹⁷³⁴ Until states are willing to sacrifice their sovereignty to environmental purity, IGOs will provide a fruitful halfway house.¹⁷³⁵

Building the organisational structure for marine pollution control began less than two decades ago. Ever since, it has been expanding and developing and the community of states has succeeded in establishing the necessary institutional mechanisms for marine pollution control. For this framework to carry out its functions satisfactorily requires many things. Financial support of IGOs is fundamental and granting them additional powers would be helpful. International civil servants must be committed and executive heads need to efficiently operate their organisations. Inter-organisational coordination is also something often posed as necessary for effective IGOs.

D. The Coordination Issue

1. Another View of Coordination

The concern for adequate coordination of IGO activities has numerous tenets, many of which are questioned in this thesis. The proposition was presented that there may be more cooperation among IGOs than is thought. The failure of highly visible coordinating bodies, such as the ACC, may have led to the opinion of poor coordination, but much coordination takes place outside these bodies by informal methods that are necessarily less visible. Also, the myriad of coordinating efforts, institutional and otherwise, bolster one another. Though one coordinating body appears largely ineffective and another's methods inconsequential, when taken together the efforts reinforce one another and have a positive effect.

It has been stated that better coordination will close gaps in international law protecting the seas, but a global legal and organisational network has been established for control of dumping, ship pollution, and deepsea mining. Offshore mining, land-based and atmospheric sources of pollution are fairly well covered in Europe. For other areas, UNEP's Regional Seas Programme is developing legal obligations and setting up institutions to cover all sources. If gaps do indeed exist, it is highly unlikely that redirecting activities of IGOs will be accompanied with additional funds or personnel. For example, when the ECE was assigned to administer the Convention on Transboundary Air Pollution, it was allocated no new resources. Consequently, reordering programmes will stretch IGO resources more thinly and, if not open as many gaps as are closed, will lead to superficial action in some areas.

Overlapping activities is not necessarily bad and may even be beneficial, for each IGO may have different expertise and perspectives, the accumulation of which may bring the best result. The interest in

coordination does not appear to be shared by states who sometimes choose uncoordinated and more organisationally complex approaches. The merits of centralization were questioned and there are numerous instances where coordinating bodies have exacerbated the cooperation problem rather than relieve it.

All these points contribute to the position that establishing new coordinating mechanisms is inadvisable, a conclusion further supported by the fact that a range of coordinating bodies already exist.

While there is no question that the network of IGOs dealing with marine pollution is complex, and some lack of coordination is inevitable, "some of the demands for coordination reflect a desire for order and symmetry in organisational affairs that is simply at odds with the real world."¹⁷³⁶ This is a valid point and why some of the reasons for coordination difficulties were discussed. Decentralized functionalism in the United Nations system is the result of a fully conscious policy. A decentralized system has been systematically and deliberately built over the years on global and regional levels. "It is idle to criticize the complexities impatiently; they are the reflections of the political realities..."¹⁷³⁷ Lateral spread of environmental activities throughout the network is natural, considering the uniqueness of pollution. Although one may find it exasperating that so many organisations on both levels are involved, this is a positive sign. By directing IGOs to address marine pollution and setting up new bodies to administer pollution control agreements, states are responding to the environmental problems and seeking their discussion and resolution in international fora.

2. Suggestions for Improved Coordination

While a skeptical position is taken on the coordination issue, there is, as with anything, room for improvement. It is also admitted that inter-organisational cooperation is something that states and international civil servants should at least keep in mind. Many suggestions for improvement might be offered, but one must retain a realistic perspective, particularly in light of the current financial problems IGOs face. Three ideas follow. None propose new coordinating bodies or novel approaches. Each seeks the better use of existing machinery.

A way coordination among specialized agencies might be improved is by greater use of the United Nations Charter and the relationship agreements between the United Nations and the agencies. ECOSOC, by

Article 63(2) of the Charter, "may co-ordinate the activities of the specialized agencies through consultations with and recommendations to such agencies..." Article 58 says ECOSOC as well as the General Assembly "shall make recommendations for the co-ordination of the policies and activities of the specialized agencies." Related provisions appear in the relationship agreements. Those in the agreement between IMO and the United Nations are representative. Article IV of the agreement says that IMO, having regard to the objectives of Articles 58 and 63 of the Charter, agrees to submit to its Assembly or Council, as appropriate, all formal recommendations the United Nations may make to it. By this article IMO also agrees to consult on such recommendations with the United Nations upon request and to report to the United Nations on the action it, or its members take, to give effect to such recommendations, or on other results of their consideration.¹⁷³⁸

Neither the General Assembly nor, and more importantly, ECOSOC, which has primary responsibility for coordination, have made much use of such provisions and Articles 58 and 63. Thus, if, for example, ECOSOC found agencies with overlapping activities or areas where no agency is adequately involved it could bring this to the attention of the relevant agency and suggest improvements. Although ECOSOC has issued recommendations to agencies, these typically have been mildly worded. ECOSOC might, therefore, start to deliver more recommendations on coordination more forcefully worded. If the response is inadequate, ECOSOC should actively pursue formal consultation under the relationship agreements. Such a method would emphasize ECOSOC's seriousness and, here and there, spur better cooperation. To be effective as possible, this approach requires commitment by state representatives to ECOSOC. If, upon adoption of a recommendation for coordination, such a representative contacted his national colleague who is the state's delegate to the agency to which the recommendation is directed, and impressed on him the importance of the issue, the recommendation might receive fuller consideration and more respect in the agency. If just a handful of states coordinated their response to ECOSOC recommendations this way, positive action on the recommendations might result.

A second way to improve coordination also relies on fuller use of existing machinery. Of all the coordinating mechanisms, UNEP's Regional Seas Programme is one of, if not the most successful. It has succeeded in bringing together specialized agencies and regional IGOs to jointly develop and carry out environmentally protective pro-

grammes in a number of regional seas. The basis for UNEP's success seems to be largely based on its Environmental Fund. This Fund is supported by voluntary contributions from states and UNEP uses it to promote its projects. As UNEP is not an operational organisation it designs projects that, it is hoped, other IGOs will find meritorious and help implement. To promote cooperation, UNEP funds all or part of the cooperating IGO's costs in implementing the project. Few IGOs are inclined to turn down suggestions for work that will be funded by another IGO. Therefore, UNEP, though without de jure coordinating authority, has de facto authority. But the money in the Environmental Fund has been limited since its establishment and only a part of UNEP's resources can be directed to the marine environment. UNEP's effectiveness as a coordinator is proportionate to the amount of its funding. Thus, were states to reach deeper into their treasuries and provide UNEP with more money, a better coordinated system would likely result.

The third suggestion for better coordination does not depend on existing mechanisms and it can only be implemented in the future. Regionalization of the sea is firmly entrenched and will continue. During this process regional conventions will continue to be adopted. To ensure coordination of activities among the new administering commissions and with commissions already at work, the drafters of future agreements should keep in mind the coordination idea. The manner in which they frame the treaty will have consequences for future coordination. Unless regional environmental conditions and political interests require otherwise, new conventions should be drafted with formats similar to those now in existence, which themselves exhibit a similar style. If possible, institutional arrangements under new conventions should also be structured like those of existing arrangements. It would also be helpful if institutions are explicitly required to develop and maintain some kind of relationship with other bodies that deal with similar matters. Again, if feasible, the substantive provisions of future marine pollution control agreements ought to resemble terms of extant conventions.

While regional chauvinism may prevent implementation of this suggestion, and while different regions have unique environmental problems and political pressures, by keeping the idea of future coordination in mind during the formulation of regional conventions, and global ones for that matter, it is likely that the opportunities for and advantages of coordination will increase.

3. Conclusion

The coordination problem: is there, in fact, a coordination problem? The goal of the network is protection of the marine environment. Critics of IGOs present no evidence of a causal relationship between lack of coordination and a lack of protection of the seas. It is submitted that states, by the conclusion of numerous treaties directing IGOs to deal with marine pollution, have responded to the environmental threat quickly, even commendably. Reasonably solid legal and institutional structures have been laid in a short time for the protection of the marine environment. This circumstance leads to one of two conclusions about coordination. If there has been poor coordination, then the good response proves coordination is not crucial for developing a protective regime. On the other hand, if the premise is true that coordination is necessary for such a development, then the work accomplished proves there has been sufficient coordination.

E. Preparing for the 1990s and Beyond

The international community has approached marine pollution on a fragmentary basis. There is not a comprehensive convention nor one organisation dealing with all aspects of all sources of marine pollution. Nor is there a supreme body to direct the overall response. Why has there been such fragmentation?

One reason is that when a problem is initially recognised it is difficult immediately to know how to solve it. Ignorance leads to trying a number of limited approaches, a process to which few would object. But once a limited approach takes hold, it is difficult to dislodge when a problem matures, can be seen in its entirety, and calls for comprehension arise. The piecemeal approach also results from the hesitancy of governments to take action in areas where they are without experience.¹⁷³⁹ Governments prefer to test solutions gradually rather than quickly do something without knowledge of its consequences. Thus, today ship pollution is the most comprehensively controlled source of marine pollution. States have had over thirty years experience with such international control. By the time the LOSC was adopted there had been experiences with controlling most sources but hardly enough to include detailed provisions on each. Yet the problems had matured enough for states to accept general provisions on the control of all sources, something they may not have been willing to do a decade earlier.

Some of these same reasons have led to a fragmented organisational

response. Although the nature of the problem -- interdisciplinary -- and the nature of IGO mandates -- broad -- also led to many IGOs addressing marine pollution.

The fragmented approach, though perhaps theoretically inferior to a comprehensive approach, often serves better the needs of governments in conducting international relations. Organisational and legal comprehensiveness may never occur, for states may never be willing to go that far.

One may even question the theory that comprehensiveness would lead to cleaner seas. The problem is immensely complex and, as Charles Lindblom argues, the complexity of a problem means that neither "drastic policy change, nor even carefully planned big steps are ordinarily possible."¹⁷⁴⁰ What is ordinarily possible is "no more than small or incremental steps..."¹⁷⁴¹ Lindblom uses the environment to discuss his theory. He says that "one big integrated implemented solution to environmental decay" is for most people a "happy vision" that remains, except in rare circumstances, impossible.¹⁷⁴² "Too many vetoes are cast against them. Too many conflicting interests pull them apart. An operative, integrated solution to a problem is a vast collection of specific commitments all of which are implemented. The odds of agreement...on these vast collections are extremely slim."¹⁷⁴³

But one need not despair that the problem will worsen or never be alleviated. There is promise in incrementalism. An agreement here, a cooperative scientific investigation there, a United Nations resolution here, may seem meaningless. But such incrementalism is a means of "smuggling" changes into the system.¹⁷⁴⁴ "Important changes in policy and in the political system often come about quite indirectly and as a surprise to many participants in the system...Incremental changes add up, often more happens than meets the eye."¹⁷⁴⁵ It is doubtful, for example, that most diplomats at UNCLOS III realized the potential significance of requiring states to adopt environmental standards based on international rules, a requirement that seems to make nonparties to a marine pollution control treaty nonetheless bound by it.

That incremental changes in international environmental law have added up is clear. On the whole, much has been accomplished since the 1972 Stockholm Conference on the Environment. Granted, much of what the 1970s began and the 1980s seek to develop has weaknesses, and much of what has not been done is cause for some concern. Nonetheless, the Lilliputian efforts, taken together, have laid a foundation. The inter-

national community's legal response to marine pollution, though fragmented and uncoordinated by a detailed, comprehensive convention, constitutes a sound framework awaiting acceptance and full implementation by all states. The organisational response, though also piecemeal and undirected by an authoritative coordinating body, has established the necessary institutional mechanisms to protect man's marine resources. If the international community has the motivation, it has established the basic legal and organisational structure to translate that will into an international regime that will protect the marine environment in the 1990s and beyond.

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NOTES

1. Johnston, "The Environmental Law of the Sea: Historical Development" in The Environmental Law of the Sea 7, 17-20 (D. Johnston ed. 1981). Remarks on the environmental awakening in this and the following paragraph are based on Johnston's article.
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4. Remond-Gouilland, "Prevention and Control of Marine Pollution" in Johnston, *supra* note 1, at 193, 198.
5. See, International Convention for the Prevention of Pollution of the Sea by Oil, done 12 May 1954, 327 UNTS 4, as amended in 1962, 600 UNTS 332, in 1969, 2 New Dirs. 580, and in 1971, 2 New Dirs. 589 [hereafter cited as OILPOL Convention]; Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, done 9 June 1969, reprinted in 9 ILM 359 (1970); International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, done 29 Nov. 1969, reprinted in 9 ILM 25 (1970), with Protocol of 1973, reprinted in 4 New Dirs. 451; International Convention on Civil Liability for Oil Pollution Damage, done 29 Nov. 1969, reprinted in 9 ILM 45 (1970), with Protocol of 19 Nov. 1976, reprinted in 16 ILM 617 (1977); International Convention on the Establishment of an International Fund for Oil Pollution Damage, done 18 Dec. 1971, reprinted in 11 ILM 284 (1972).
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10. Stockholm Principle 25, in *id.*
11. Stockholm Recommendations 86-94, in *id.*

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19. Charnock, "Marine Science: Organising the Study of the Oceans," 8 Mar. Pol'y. 120, 120 (1984).
20. Id.
21. 8 Mar. Pol'y. App.A and B (1984).
22. U.N. Doc. E/AC.51/1983/2, "Cross-Organisational Programme Analysis of the Activities of the United Nations System in Marine Affairs" 4 (15 March 1983) [hereafter cited as COPA Rpt.].
23. UNEP and ISBA are U.N. bodies and the remainder, except for the IAEA, are specialized agencies. Although IAEA is not a specialized agency reference to this fact will not be made again in the thesis and any reference to specialized agencies is meant to include the IAEA.
24. The ISBA is established by the LOSC but as this agreement has yet to enter into force the ISBA is a prospective organisation.
25. While NGOs play an important role in protecting the oceans from pollution, their activities are beyond the scope of the thesis. On their role, see, Springer, *supra* note 18, at 109-10; Barnes, "Non-Governmental Organisations in the Environmental Crisis," 8 Mar. Pol'y. 171 (1984); Smith, "The Role of Specialized Purpose and Non-Governmental Organisations in the Environmental Crisis" in World Eco-Crisis; International Organisations in Response 158 (D. Kay and E. Skolnikoff eds. 1972).
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40. See, Hood, as noted in Tomczak, *supra* note 35, at 312, n. 7.
41. Tomczak, *supra* note 35, at 312.
42. Remond-Gouilland, *supra* note 4, at 194.
43. See, K. Hakapaa, Marine Pollution in International Law: Material Obligations and Jurisdiction with Special Reference to the Third United Nations Conference on the Law of the Sea 36 (1981).
44. See, Preston, "Use of the Oceans for Waste Disposal," 21 The Siren 9 (1984); Goldberg, "Environmental Endpoints," 11 MPB 85 (1980).
45. As noted in Cole, "What to Protect - A Matter of Definition," 8 MPB 1, 1 (1977).
46. Id.

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48. *Id.*
49. *Id.* at 556.
50. See, S. Oda, The Law of the Sea in our Time - 1 New Developments, 1966-1975, at 209 (1977); Remond-Gouilland, *supra* note 4, at 196; GESAMP, Reports and Studies No. 2, "Review of Harmful Substances" 3 (1976).
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83. Schachter and Serwer, supra note 14, at 106.
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87. *Id.*
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89. Rodriquez, "Marine and Coastal Environmental Stress in the Wider Caribbean," 10 *Ambio* 283, 289 (1981).
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91. Saliba, "Mediterranean Pollution: Health Related Aspects," 7 *Mar. Policy* 109, 110 (1983).
92. Ghergo, quoted in 17 *Eco-forum* 12 (1983).
93. Dampier, "A Decade of Debate: The Bioshpere," 11 *Ambio* 220, 223 (1982).
94. *Id.*
95. *Id.*
96. Vella, *supra* note 51, at 43.
97. Anon., "North Sea 'A Dustbin,'" 13 *MPB* 4 (1982).
98. Clark, "Pollution and the Management of Natural Resources in the Seas Around the British Isles" 210 (reprint from the journal *La Biologia Marina per la difesa e per la produttivita del mare*) (undated).
99. Waldichuk, *supra* note 70, at 32. See also, Anon., "Report on N. Sea Metal Pollution," 13 *MPB* 297 (1982); G. Kullenberg, "The Vital Seas" 11 (UNEP booklet 1984).
100. Waldichuk, "The Great Exchange," 20 *The Siren* 11,13 (1983).
101. Hulings, "The Uranium Content of Sediments from the Jordan Gulf of Aqaba," 13 *MPB* 47 (1982).
102. Borman, "The New England Landscape: Air Pollution and Energy Policy," 11 *Ambio* 188, 192 (1982).
103. Waldichuk, *supra* note 70, at 32.
104. See, Lindberg, "Getting the Lead out of Swedish Petrol: Step by Leaden Step," 10 *Ambio* 351, 352 (1981).
105. Anon., "Burning Wastes at Sea," 5 *Haz. Cargo Bull. No. 4*, at 11, 11 (1984).

106. M. Lee, "Toxic Waste Incineration at Sea" 2 (8 March 1983) (Library of Congress Congressional Research Service Brief No. MB83232).
107. Id. at 1.
108. Anon., "Incineration Ships: A Burning Question," N. Sea Monitor 84.2, at 4, 5 (1984); Comptroller General of the U.S., "Hazardous Waste Disposal Methods: Major Problems with Their Use" 7 (typescript 19 Nov. 1980).
109. See, Cole, "Sand and Gravel Extraction," 8 MPB 193 (1977); Siebold, "Non-Living Marine Resources" in IOC Tech. Ser. No. 21, "Marine Environment and Ocean Resources" 7, 11 (1980).
110. GESAMP, Reports and Studies No. 15, "The Review of the Health of the Oceans" 64 (1982).
111. Read and Blackman, "Oily Water Discharges from Offshore North Sea Installations: A Perspective," 11 MPB 44, 46 (1980); Remond-Gouilland, *supra* note 4, at 246. For descriptions of offshore oil drilling operations, see, *id*; Odell, "Offshore Resources: Oil and Gas" in Barston and Birnie, *supra* note 12, at 76, 76-105; Blaikley, "Environmental Protection in North Sea Exploration and Production Operations," 1 Mar. Policy ___, 148-49 (1977); de Mestral, "The Prevention of Pollution of the Marine Environment Arising from Offshore Mining and Drilling," 20 Harv. Int'l. L.J. 469, 471-83 (1979).
112. UNEP, The State of the Environment 1972-1982, at 18 (1982).
113. Remond-Gouilland, *supra* note 4, at 247.
114. Int'l. Herald Tribune, 11 Nov. 1983, at 1, col. 6.
115. The Sunday Times (London), 10 Apr. 1983, at 11, col. 2.
116. WWF News, July-Aug., 1983, at 1, col. 1; D. Allen, "Trip to Saudi Arabia and Bahrain September 25 to October 5, 1983" at 4 (undated typescript of World Wildlife Fund-U.K.).
117. U.S. Dep't. of Commerce Nat'l. Oceanic and Atmospheric Admin., I Deep Seabed Mining: Final Programmatic Environmental Impact Statement xxi (Sept. 1981) [hereafter cited as NOAA EIS]. Besides this study, on the environmental consequences of deepsea mining, see, A. Post, Deepsea Mining and the Law of the Sea 57-64 (1983); Brown, "Pollution from Seabed Mining: Legal Safeguards," 10 Envi. Policy & L. 122, 123-25 (1983); Barnes, "Pollution from Deep Ocean Mining" in Johnston, *supra* note 1, at 259; Frank, "Deepsea Mining and the Environment: A Report of the Working Group on Environmental Regulation of Deepsea Mining" (Amer. Society of Int'l. Law booklet 1976).
118. NOAA EIS, *supra* note 117, at 100.
119. U.S. Marine Poll. Prog., *supra* note 68, at 61.
120. Frank, "Environmental Aspects of Deepsea Mining," 15 Va. J. Int'l. L. 815, 815 (1976).
121. NOAA EIS, *supra* note 117, at 103-04.

122. Id.
123. Id. at xviii-xix, 108.
124. Frank, *supra* note 120, at 819.
125. Id.
126. "Coastal waters" is not a term of art with a clear definition. It is used here as a helpful demarcation between two ocean areas. It may be said that "coastal waters" generally includes the areas within the legally defined areas of internal waters, territorial seas, and the exclusive economic zone. This latter zone is an area adjacent to the territorial sea not extending beyond 200 nautical miles from the baselines from which the territorial sea is measured.
127. See, de Klemm, "Living Resources of the Ocean" in Johnston, *supra* note 1, at 71, 72; E. Goldberg, The Health of the Oceans 17-20 (1976).
128. GESAMP, *supra* note 110, at 3; Driver, "International Fisheries" in Barston and Birnie, *supra* note 12, at 27, 44.
129. de Klemm, *supra* note 127, at 72.
130. Kullenberg, *supra* note 100, at 14.
131. Bernhardt, "A Schematic Analysis of Vessel-Source Pollution: Prescriptive and Enforcement Regimes in the Law of the Sea Conference," 20 Va. J. Int'l. L. 265, 270 (1980).
132. GESAMP, *supra* note 110, at 3.
133. Id.
134. Some of the literature reviewed includes: U.N. Doc. UNEP/WG.91/6, "Assessment of the Present State of Microbial Pollution in the Mediterranean Sea" (1983); Leppakoski, "Man's Impact on the Baltic Ecosystem," 9 Ambio 174 (1980); Kullenberg, "The Baltic - a Regional Sea Marine Pollution Case Study," 12 MPB 179 (1981); Kullenberg, *supra* note 110; Royal Comm'n. on Environmental Pollution, *supra* note 31, at 109. Also reviewed were the following publications of UNEP's Regional Seas Reports and Studies: No. 3, "River Inputs to the West and Central African Marine Environment" (1982); No. 8, "Marine Pollution in the East African Region" (1982); No. 13, "Pollution and the Marine Environment in the Indian Ocean" (1982); No. 16, "Health of the Oceans" (1982); No. 25, "Marine Pollution" (1983); No. 31, Dahl and Baumgart, "The State of the Environment in the South Pacific" (1983); No. 36, "The State of the Marine Pollution in the Wider Caribbean Region" (1983).
135. GESAMP, *supra* note 110, at 6-7.
136. Some of these incidents include: the Minimata disaster, Goldberg, *supra* note 44, at 85; New York Bight, Letalik, *supra* note 59, at 218; the accidental burning of Danish fishermen by chemicals dumped after World War II, *id*; Jamaica's Kingston harbour, Rodriquez, *supra* note 89, at 292-93; Mediterranean jellyfish swarms, Modiano, "£125,000 Plan to Cure the Mediterranean's Big Sting," The Times (London), 14 Apr. 1984, at 4, col. 6-7.
137. Attributed to E. Eckholm by F. Barnaby, Book Review, 12 Ambio

138. IMO Doc., *supra* note 82, at 4.
139. Council on Environmental Quality and Dep't. of St., I The Global 2000 Report to the President: Entering the Twenty-First Century 27 (undated) [hereafter cited as Global 2000 Rpt.].
140. *Id.* See also, Editorial, 6 *Envi. Policy & L.* 109, 109 (1980); Anon., "More Coal and Less Pollution in the EEC?" 17 *Eco-forum* 4, 4 (1983); Highton and Chadwich, "The Effects of Changing Patterns of Energy Use on Sulphur Emissions and Depositions in Europe," 11 *Ambio* 324, 325-26 (1982).
141. Global 2000 Rpt., *supra* note 139, at 37. While nuclear production of electricity accounted for 16% of electricity produced in 1983, by the end of the century the share will be beyond 25%. Nuclear Energy Agency, NEA Activities in 1983, at 10 (1984). About 300,000 metric tons of spent nuclear fuel from reactors worldwide may exist by 2000. Boehmer-Christiansen, "Nuclear Waste in the Marine Environment," 6 *U. of Delaware Marine Policy Rpts.* Dec. 1983, at 1.
142. Tucker, "How 'Hex' Underpins Nuclear Power," *The Gaurdian* (London), 28 Aug. 1984, at 13, col. 4-5.
143. Fadika, "Towards a New Order of the Sea," 25 *The Siren* 31, 36 (1984).
144. Global 2000 Rpt., *supra* note 139, at 8.
145. Schneider, *supra* note 13, at 72.
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147. *Id.* at 35.
148. Kindt, "Floating Nuclear Power Plants?" 5 *Mar. Polciy* 90 (1981); Blake, "Floating Nuclear Power Plants - A Reasonable Use of the High Seas?" 8 *Cal. West. Int'l. L.J.* 191 (1978).
149. Symonds, "Offshore Oil and Gas" in Borgese and Ginsburg, *supra* note 57, at 114, 133-34.
150. Brown, "Law Change Sought for Dumping," *The Gaurdian* (London), 15 Sept. 1983, at 28, col. 1.
151. Lee, *supra* note 63, at 5.
152. See, Anon., "Seabed Disposal of Hi-Level Radioactive Wastes Discussed," 12 *IMO News* No. 2, at (1984).
153. *Eco-forum* 15 (1983).
154. GESAMP, *supra* note 110, at 289.
155. UNEP, The State of the Environment 1983: Selected Topics 6 (1983). In 1981 the U.S. produced 290 million tons of hazardous waste. Council on Environmental Quality, *supra* note 65, at 62.

156. Comptroller General of the U.S., *supra* note 108, at 3.
157. *Id.* at 2.
158. Lee, *supra* note 63.
159. Geyer, quoted in Norton, Book Review, 13 MPB 107, 107 (1982); See also, Clark, "Pollution is Good for You (or it will be soon)," 10 MPB 181, 182 (1979).
160. Council on Environmental Quality, *supra* note 65, at 184.
161. UNEP, *supra* note 112, at 63.
162. GESAMP, *supra* note 110, at 88. See also, GESAMP, Reports and Studies No. 17, "The Evaluation of the Hazards of Harmful Substances Carried by Ships" 2 (1982).
163. Anon., "Oil Pollution Reviewed," 13 MPB 1, 2 (1982).
164. Lee, *supra* note 63, at 6.
165. Goldberg, *supra* note 127, at 24. See also, Royal Comm'n. on Environmental Pollution, *supra* note 37, at 24.
166. Boxer, "The Mediterranean Sea: Preparing and Implementing a Regional Action Plan" in Kay and Jacobson, *supra* note 16, at 267, 298.
167. Rodriguez, *supra* note 89, at 294. See also, Bruneau, "Pollution from Industries in the Drainage Area of the Baltic," 9 *Ambio* 145, 151 (1980).
168. Waldichuk, *supra* note 70, at 71.
169. *Id.* at 72-75.
170. Cole, "Effects of Pollution on Fish Stocks," 14 MPB 37, 37 (1983).
171. See, e.g. UNEP, United Nations Environment Programme Annual Review 1980, at 15-16 (1981); Waldichuk, *supra* note 70, at 14; Saliba, *supra* note 91, at 109-10; Leppakoski, *supra* note 134, at 177-78.
172. Quoted in Boehmer-Christiansen, Book Review, 7 Mar. Policy 130, 131 (1983).
173. Cole, "Grim Outlook for the Twenty First Century," 12 MPB 69, 70 (1981). See also, UNEP *supra* note 112, at 53.
174. Kullenberg, quoted in 19 *The Siren* 26 (1983). "This ignorance of the oceans and the life in them is one of the reasons why the problem of marine pollution and its effects must be treated with respect and caution." Schachter and Serwer, *supra* note 14, at 85.
175. Kullenberg, *supra* note 174, at 26.
176. Kullenberg, *supra* note 100, at 7-9.
177. Johnston, "International Environmental Law: Recent Developments and

Canadian Contributions" in Canadian Perspectives of International Law and Organisation 555, 606 n. 1 (R. MacDonald, et al eds. 1974).

178. H. Schermers, II International Institutional Law 680 (1972).
179. E. Luard, International Agencies: The Emerging Framework of Interdependence 278 (1977); Smithers, UNITAR Regional Study No. 3, "Governmental Control: A Prerequisite for Effective Relations Between the United Nations and Non-United Nations Regional Organisations" 10 (1973); U.N. Doc. E/337/Rev.1, "Five-Year Perspective 1960-1964," at 103-04 (1960); Sen. Comm. on Govt. Operations, "U.S. Participation in International Organisations," S. Rep. No. 95-50, 95th Cong., 1st Sess., 13 (1977).
180. Smithers, *supra* note 179, at 10.
181. Hargrove, "Editorial Analysis" in Law, Institutions and the Global Environment 169, 172-73 (L. Hargrove ed. 1972); Schermers, *supra* note 178, at 680; Taylor, "Coordination in International Organisation" in International Organisation: A Conceptual Approach 195, 195 (P. Taylor and A. Groom eds. 1978).
182. See, Sharp, "Program Coordination and the Economic and Social Council" in UN Administration of Economic and Social Programs 102, 109 (G. Mangone ed. 1966).
183. See, Luard, *supra* note 179, at 278-79; McLaren, "The UN System and its Quixotic Quest for Coordination," 34 *Int'l. Org.* 139, 145-46 (1980).
184. C. Archer, International Organisations 31-35 (1983). See also, H. Schermers, I International Institutional Law 4-25 (1970).
185. The Yearbook of International Organisations requires three members for an international organisation to exist. Union of Int'l. Assns., Yearbook of International Organisations 1984/85, at 1631 (1984). Most authors accept three as the minimum number. See, W. Feld and R. Jordan, International Organisations: A Comparative Approach 10 (1983). For the argument that two is sufficient, see, Wallace and Singer, "Intergovernmental Organisation in the Global System, 1815-1964: A Quantitative Description," 24 *Int'l. Org.* 239, 243-44 (1970).
186. Archer, *supra* note 184, at 35.
187. Union of Int'l. Assns., *supra* note 185, at 1631.
188. ECOSOC Res. 288 (X) (27 Feb. 1950), quoted in *id.*
189. Schermers, *supra* note 184, at 16.
190. Archer, *supra* note 184, at 48.
191. Feld and Jordan, *supra* note 185, at 10.
192. Alheritiere, "Marine Pollution Control Regulation: Regional Approaches," 6 *Mar. Policy* 162, 170 (1982).
193. Archer, *supra* note 184, at 44.

194. Alexander, "Regional Arrangements in the Oceans," 71 AJIL 84, 89 (1977).
195. Id.
196. Id.
197. Id. at 90-91.
198. Id. at 91.
199. Id. at 92.
200. Id.
201. Id. at 93.
202. Johnston and Enomoto, *supra* note 3, at 285.
203. See, the Oresund Agreement between Denmark and Sweden and the Tripartite Agreement between Indonesia, Malaysia, and Singapore for protection of the Malacca Straits.
204. See, B. Russett, International Regions and the International System 2 (1967).
205. Schermers, *supra* note 184, at 108.
206. "[S]ociety...is confronted with a disorderly jungle of intergovernmental organisations, working largely in isolation and frequently in competition." Smithers, *supra* note 179, at 1.
207. Most specialized agencies "have now become the equivalent of principalities, free from any centralized control." U.N. Doc. DP/5, Jackson, I A Study of the Capacity of the United Nations Development System v (1969); U.N. Doc. E/5704, "Report of the Chairman of the Policy and Programme Coordination Committee and the Chairman of the ACC on the Joint Meetings of the PPCC and ACC" para. 14 (July 1975).
208. Luard, *supra* note 179, at 5. See also the unfavourable comments by other observers presented below.
209. M. Hill, UNITAR Research Reports No. 20, "Towards Greater Order, Coherence and Coordination in the United Nations System" 16, 39 (1974). This UNITAR study was updated in a book. M. Hill, The United Nations System: Coordinating its Economic and Social Work (1978). The book, however, contains little more than is in the study.
210. G.A. Res. 2566, UN GAOR Supp. (No. 30), U.N. Doc A/7630 (1970). This resolution was adopted prior to the creation of UNEP, at a time when a number of writers were complaining about lack of coherence in the environmental activities of IGOs. See, Hargrove, *supra* note 181, at 169; Clingan, (Panel Discussion) in The Law of the Sea: The United Nations and Ocean Management 224 (L. Alexander ed. 1971).
211. Borgese, "Man and the Oceans" in Borgese and Ginsburg, *supra* note

- 57, at 1, 7. "Nor is this kind of expanded, interdisciplinary cooperation limited to agencies. It comprises regional economic commissions and other regional functional institutions..." Id.
212. Id; Borgese, "The Convention is Signed: What Does the Future Hold?" in Ocean Yearbook 4, at 1, 8 (E. Borgese and N. Ginsburg eds. 1983).
213. de Klemm, *supra* note 127, at 71, 164. See also, Kingham and MacRae, "Competent International Organisations and the Law of the Sea," 3 Mar. Policy 106, 119 (1979).
214. UNEP, "Review of the UNEP Activities Relevant to Issues before the Third United Nations Conference on the Law of the Sea," 7-8 (1982).
215. Quoted in, U.N. Doc. ACC Doc. CO-ORDINATOR/R.1199, "Institutional and Coordination Arrangements in the Field of Marine Affairs" Annex V, at 3 (3 Feb. 1977) [hereafter cited as ACC Doc.].
216. Miles, "On the Roles of International Organisations in the New Ocean Regime" in The Law of the Sea in the 1980s 383, 394 (C. Park ed. 1983).
217. Barston and Birnie, "Introduction" in Barston and Birnie, *supra* note 12, at 1, 4. See also, Nafziger, "Global Conservation and Management of Marine Mammals," 3 San Diego L.R. 591, 591 (1980); Mensah, "Environmental Protection: International Approaches," 8 Mar. Policy 95, 97 (1984); Charnock, *supra* note 19, at 124-25; MacRae, "The New Oceans Regime: Implementing the Convention," 8 Mar. Policy 83, 91 (1984).
218. Meredith, "Rationalization at Sea," 6 Mar. Policy 332, 333 (1982).
219. See, Boczek, *supra* note 26, at 70; Alexander, *supra* note 194, at 105; Anon., "IOI: Pacem Maribus IX" in Ocean Yearbook 2, at 426, 427 (E. Borgese and n. Ginsburg eds. 1980); Vella, *supra* note 51, at 51, 69, 73-74.
220. A. Kiss, Survey of Current Developments in International Environmental Law 114 (1976).
221. Scharlin, "The United Nations and the Environment: After Three Decades of Concern, Progress is Still Slow," 11 Ambio 26, 26 (1982). See also, Lutz, "Harmonizing National Environmental Laws and Policies," 1 Envi. Policy & L. 162, 162 (1975); Int'l. Union for Conservation of Nature-UNEP-World Wildlife Fund, "Introduction" to World Conservation Strategy para. 1 (1980).
222. See, e.g., Anon., "Extracts from Delegate Statements," 6 Envi. Policy & L. 55, 58-59 (1980); Anon., "Extracts from Delegate Statements," 7 Envi. Policy & L. 106, 116 (1981).
223. As noted in UNEP, *supra* note 214, at 7-8.
224. Anon., "Governing Council: The Coming 9th Session," 7 Envi. Policy & L. 54, 60 (1980).
225. See, Anon., "Coordination Questions," 6 Envi. Policy & L. 60, 60-61 (1980).

226. U.N. Doc. ACC/1984/1, "Progress of Work of the Administrative Committee on Coordination and its Subsidiary Machinery for 1984," at 16.
227. ICJ Statute, Art. 38(1), reprinted in Basic Documents of International Law 276 (I. Brownlie ed. 2d ed. 2d printing 1978).
228. G. Schwarzenberger and E. Brown, A Manual of International Law 21-32 (6th ed. 1976).
229. ICJ Statute, supra note 227, at Art. 38(1)(b).
230. See, I. Brownlie, Principles of Public International Law 4-5 (3d ed. 1970); 1 D. O'Connell, International Law 17 (2d ed. 1970).
231. See, A. D'Amato, The Concept of Custom in International Law 56 (1971); Waldock, "General Course on Public International Law" in 106 Recueil Des Cours 1962-II, 1 at 42-45 (Academie de Droit Int'l. 1963). In some instances customary law can be created quickly. See, North Sea Continental Shelf Cases (Fed. Rep. of Germany v. Denmark; Fed. Rep. of Germany v. The Netherlands) 1969 ICJ 3, at 43.
232. Kopelmanas, "Custom as a Means of the Creation of International Law," 18 Brit. Y.B. Int'l. L. 127, 130 (1937).
233. Kunz, "The Nature of Customary International Law," 47 AJIL 662, 665 (1953). See also, North Sea Continental Shelf Case, supra note 231, at 44; Fisheries Jurisdiction Case (U.K. v. Iceland) 1974 ICJ 3, 23.
234. Nuclear Tests Case (Australia v. France) 1974 253; Nuclear Tests Case (New Zealand v. France) 1974 ICJ 457. As New Zealand's pleadings and oral argument were similar to Australia's in these cases and as the Court's decision was similar in each, the thesis will emphasize the Australian case.
235. ICJ Statute, supra note 227, at Art. 59.
236. PCIJ Statute, Art. 59, reprinted in Int'l. Intermediary Institute The Hague, The Permanent Court of International Justice: Statute and Rules 66 (1922).
237. See, ICJ Statute, supra note 227, at Arts. 65-68.
238. The U.S., in criticizing an adverse decision in Nicaragua v. U.S., complained that the Court "[o]verrules its own prior holdings on at least two dispositive issues..." U.S. St. Dep't., "Observations on the International Court of Justice's November 26, 1984 Judgement of Jurisdiction and Admissability in the Case of 'Nicaragua v. United States of America,'" reprinted in 79 AJIL 423, 424 (1985). The statement may be interpreted as U.S. acceptance of stare decisis in international law.
239. Interpretation of Peace Treaties with Bulgaria, Hungary and Romania (Advisory Opinion) 1950 ICJ 65, 91 (Winiarski, dissenting); Anglo-Iranian Oil Case (U.K. v. Iran) Preliminary Objection 1952 ICJ 93, 143 (Read, dissenting); South West Africa Cases (Ethiopia v. South Africa; Liberia v. South Africa) Second Phase 1966 ICJ 4, 261 (Tanaka, dissenting).

240. H. Lauterpacht, The Development of International Law by the International Court 22 (1958).
241. *Id.* at 15-18.
242. *Id.* at 17.
243. See, L. Henkin, et al, International Law Cases and Materials 89 (1980).
244. D. Harris, Cases and Materials on International Law 50 (2d ed. 1979). Yet, the ICJ can itself lose universality when litigants choose to have their case heard by a chamber of the Court, as Art. 26 of the Court's Statute entitles them to. This mechanism was used in the Canada-U.S. Delimitation of the Maritime Boundary in the Gulf of Maine Case. Int'l. Ct. of Justice, Yearbook 1982-1983, at 123 (1983). The judges in this dispute were from France, West Germany, Italy, Canada, and the U.S.
245. J. Starke, Introduction to International Law 50 (8th ed. 1979).
246. *Id.*
247. Johnson, "International Arbitration Back in Favour?" 34 Y.B. World Affairs 1980, at 305, 311-12 (1980).
248. O'Connell, *supra* note 230, at 35.
249. C. de Vischer, Theory and Reality in Public International Law 158 (P. Corbett trans. rev. ed. 1968); Brownlie, *supra* note 230, at 5; Lauterpacht, *supra* note 240, at 20; Starke, *supra* note 245, at 56.
250. Lauterpacht, *supra* note 240, at 20.
251. Utton, *supra* note 31, at 288.
252. Goldie, "Development of an International Environmental Law: An Appraisal" in Hargrove, *supra* note 180, at 125, 159 n. 115.
253. *Kansas v. Colorado*, 185 U.S. 125, 146-47 (1902).
254. *Alcom Ltd. v. Republic of Colombia*, [1984] 2 W.L.R. 750; *Trendtex Trading Corp. Ltd. v. Central Bank of Nigeria*, [1977] 1 All E.R. 881.
255. Schwarzenberger and Brown, *supra* note 228, at 30-31.
256. For a discussion of this problem, see, Hakapaa, *supra* note 43, at 133-36.
257. H. Kelsen, Principles of International Law 540 (R. Tucker rev. 2d ed. 1966).
258. G. Tunkin, Theory of International Law 195-97 (W. Butler trans. 1974).
259. See, Hakapaa, *supra* note 43, at 134.
260. Starke, *supra* note 245, at 38 n. 1.

261. There is, however, another element in this argument, that is, there is no reason why the phrase "general principles of law recognized by civilized nations" should not mean both general principles of international law and general principles of national law. M. Akehurst, A Modern Introduction to International Law 34 (4th ed. 1982).
262. Tunkin, *supra* note 258, at 195-203.
263. Hakapaa, *supra* note 43, at 134-35.
264. *Id.*
265. Waldock, *supra* note 231, at 55-56.
266. *Re the Seabed and Subsoil of the Continental Shelf Offshore Newfoundland*, 5 D.L.R. 4th 385, 411 (1984).
267. Waldock, *supra* note 231, at 56-57; Starke, *supra* note 245, at 37 n. 3.
268. Dupuy, "International Liability for Transfrontier Pollution" in Trends in Environmental Law and Policy 363, 366 (M. Bothe ed. 1980); Brownlie, "A Survey of International Customary Rules of Environmental Protection," 13 Nat. Resources J. 179, 180-84 (1973); Bilder, "International Law and Natural Resources Policies," 20 Nat. Resources J. 451, 469 (1980). See also the work of the ILC on state responsibility, [1980] 2 Y.B. Int'l. L. Comm'n. 26, U.N. Doc. A/CN.4/SER.A/1980/Add.1; [1976] 2 Y.B. Int'l. L. Comm'n. 109, U.N. Doc. A/CN.4/SER.A/1976/Add.1.
269. E. Brown, The Legal Regime of Hydrospace 128 (1971); Council on Environmental Quality, Ocean Dumping: A National Policy 35 (1970); Dupuy, *supra* note 268, at 369; Brownlie, *supra* note 268, at 180; Burchi, "International Legal Aspects of Pollution of the Seas from Rivers," 3 Ital. Y.B. Int'l. L. 115, 137 (1977); Teclaff, "International Law and the Protection of the Oceans from Pollution," 40 Fordham L.R. 529, 535 (1972); Schwarzenberger, "Trends in the Law of the Sea" From 'Levithan' to 'Jaws?' in 33 Y.B. World Affairs 1979, at 328, 359 (1979).
270. Bothe, "Transfrontier Environmental Management" in Bothe, *supra* note 268, at 391, 392; Burchi, *supra* note 269, at 124; Int'l. Law Assn., Report of Sixtieth Conference held at Montreal 160 (1980); Handl, "Territorial Sovereignty and the Problem of Transnational Pollution," 69 AJIL 50, 72 (1975).
271. Brownlie, *supra* note 268, at 179; Teclaff, *supra* note 269, at 530.
272. Schneider, *supra* note 13, at 25-26.
273. Brownlie, *supra* note 268, at 179.
274. Haimbaugh, "Protecting the Seas from Nuclear Pollution," 33 S. Carolina L.R. 197, 232 (1981).
275. Hakapaa, *supra* note 43, at 131 n. 10.
276. *Id.* at 131.

277. Id. at 132.
278. Id.
279. Id.
280. Id.
281. Id. at 132.
282. Id.
283. See, North Sea Continental Shelf Cases, supra note 231, at 37. See also, Baxter, "Treaties and Custom" in 129 Recueil Des Cours 1970-I, at 25, 31-74 (Academie de Droit International 1976); Akehurst, "Custom as a Source of International Law," 47 Brit. Y.B. Int'l. L. 1 (1977).
284. Customary rules of international law may be global or regional. Virally, "The Sources of International Law" in Manual of Public International Law 116, 135 (M. Sorenson ed. 1968); Asylum Case (Colombia v. Peru) 1950 ICJ 266, 276-78; Case Concerning Right of Passage over Indian Territory (Portugal v. India) Merits 1960 ICJ 6, 39.
285. Hickey, "Custom and Land-Based Pollution of the High Seas," 3 San Diego L.R. 408, 454 (1978). Kuwabara made a quest similar to Hickey's and merely found that marine pollution control treaties suggest a rule that there is fundamental duty to protect the seas against pollution. S. Kuwabara, The Legal Regime of the Protection of the Mediterranean against Pollution from Land-Based Sources 45 (1984).
286. Llana (Panel Discussion), 16 Tex. Int'l. L.J. 363 (1981).
287. Lanctot, "Marine Pollution: A Critique of Present and Proposed International Agreements and Institutions - A Suggested Global Oceans Environmental Regime," 24 Hastings L.R. 67, 76 (1972).
288. Carvell, "The North Dakota Garrison Diversion Project and International Environmental Law," 60 North Dak. L.R. 603, 612-14, 616-19, 626-30 (1984).
289. The Corfu Channel Case (U.K. v. Albania) Merits 1949 ICJ 4.
290. Id. at
291. See, Schneider, supra note 13, at 164, 166; Teclaff, "The Impact of Environmental Concern on the Development of International Law" in International Environmental Law 229, 242 (L. Teclaff and A. Utton eds. 1974); Goldie, "International Principles of Responsibility for Pollution," 9 Colum. J. Transnat'l. L. 283, 306 (1970); Timagenis, supra note 15, at 114.
292. See supra note 269 and accompanying text.
293. Nuclear Tests Case, supra note 231, at 361; Memorial of Australia in 1 ICJ Pleading, Oral Argument, Documents, Nuclear Tests Cases (Australia v. France) (1978), at 337 [hereafter cited as Aust.

Memorial]. For accounts of the case, see, MacDonald and Hough, "The Nuclear Tests Case Revisited," 10 German Y.B. Int'l. L. 337 (1977); Ris, "French Nuclear Testing: A Crisis for International Law," 4 Denver J. Int'l. L. & Policy 111 (1974); Elkind, "French Nuclear Testing and Article 41 - Another Blow to the Authority of the Court," 8 Vanderbilt J. Transnat'l. L. 38 (1974).

- 294. Aust. Memorial, *supra* note 293, at 519.
- 295. Nuclear Tests Case, *supra* note 231, at 271.
- 296. *Id.* at 256-60.
- 297. *Id.* at 363.
- 298. Hickey, *supra* note 285, at 455-56.
- 299. Nuclear Tests Case, *supra* note 231, at 366.
- 300. Trail Smelter Case (U.S. v. Canada) 3 R. Int'l. Arb. Awards 1905 (1941), reprinted in 35 AJIL 684 (1941) [hereafter cited as Trail Smelter]. For accounts of the case, see, Read, "The Trail Smelter Dispute," 1 Can. Y.B. Int'l. L. 213 (1963); Hoffman, "State Responsibility in International Law and Transboundary Pollution Injuries," 25 Int'l. Comp. L. Qtly. 509, 513-20 (1976); Rubin, "Pollution by Analogy: The Trail Smelter Arbitration," 50 Oregon L.R. 259 (1971).
- 301. Ando, "The Law of Pollution Prevention in International Rivers and Lakes" in The Legal Regime of International Rivers and Lakes 331, 335 (R. Zacklin and L. Caflisch eds. 1981); Kiss, *supra* note 220, at 46; Timagenis, *supra* note 15, at 144. "[C]ommentators on the case have generally been uncritical, perhaps because of their enthusiasm that an international tribunal has at last asserted the principle of state responsibility for extraterritorial injury." Lester, "River Pollution in International Law," 57 AJIL 828, 837 n. 50 (1963).
- 302. Trail Smelter, *supra* note 300, at 1965-66.
- 303. *Id.* at 1966.
- 304. Ando, *supra* note 301, at 335.
- 305. Kiss, *supra* note 220, at 46.
- 306. Handl, "Balancing of Interests and International Liability for the Pollution of International Watercourses: Customary Principles of Law Revisited," 13 Can. Y.B. Int'l. L. 156, 168 (1975). See also, Lester, *supra* note 301, at 837; Dupuy, *supra* note 268, at 374.
- 307. Trail Smelter, *supra* note 300, at 1963.
- 308. *Id.* at 1963-65.
- 309. Burchi, *supra* note 269, at 124.
- 310. Brownlie, *supra* note 268, at 182.

311. Quoted in Bilder, "Controlling Great Lakes Pollution: A Study in United States-Canadian Environmental Cooperation" in Hargrove, *supra* note 180, at 294, 324.
312. McManus, "Ocean Dumping: Standards in Action" in Kay and Jacobson, *supra* note 16, at 135.
313. See, Caflisch, "International Law and Ocean Pollution: The Present and the Future," 8 Rev. Belge de Droit Int'l. 7, 15-17 (1972); Burchi, *supra* note 269, at 138.
314. Brown, as cited in Caflisch, *supra* note 313, at 16. Contra, see, Hickey, *supra* note 285, at 431.
315. See, e.g., Haimbaugh, *supra* note 274, at 198; Caflisch, *supra* note 313, at 13-14; Hakapaa, *supra* note 43, at 137; Petaccio, "Water Pollution and the Future Law of the Sea," 21 Int'l. Comp. L. Q'tly. 15, 21-22 (1972).
316. Good neighborliness "means that a State may not act with complete disregard for the interests of its neighbour." Bothe, *supra* note 270, at 394. For discussions of the concept, see, Hakapaa, *supra* note 43, at 141-45; I. Van Lier, Acid Rain and International Law 103-10 (1980); Elkind, "Footnote to the Nuclear Test Case: Abuse of Right - A Blind Alley for Environmentalists," 9 Vanderbilt J. Transnat'l. L. 57, 75-98 (1976). Berber disputes the existence of good neighborliness in international law. Berber, *supra* note 31, at 223.
317. Johnston, *supra* note 1, at 17, 21; L. Oppenheim, I International Law A Treatise: Peace 346 (H. Lauterpacht ed. 7th ed. 5th printing 1961); Hakapaa, *supra* note 43, at 137; Schwarzenberger, "Uses and Abuses of the 'Abuse of Rights' in International Law" in 42 The Grotius Society: Transactions for the Year 1956, at 147, 151 (1957); Handl, *supra* note 270, at 56; Kwiatowski-Czechowska, "States' Responsibility for Pollution Damage Resulting from the Exploration and Exploitation of Seabed Mineral Resources," 10 Polish Y.B. Int'l. L. 1979-1980, at 158, 161 (1981); Jones, "The Corfu Channel Case: Merits," 26 Brit. Y.B. Int'l. L. 447, 447 (1949).
318. Schwarzenberger, *supra* note 317, at 168.
319. *Id.* at 173. "Confusion reigns over what constitutes 'reasonableness' in the international arena." Blake, *supra* note 148, at 199.
320. McDougal and Schlei, "The Hydrogen Bomb Tests in Perspective: Lawful Measures for Security," 64 Yale L.J. 648 (1954-1955). See also, McDougal, "The Hydrogen Bomb Tests and the International Law of the Sea," 49 AJIL 356 (1955).
321. Springer, *supra* note 28, at 548.
322. Utton, *supra* note 31, at 286.
323. Holstein, as quoted in Hakapaa, *supra* note 43, at 137.
324. B. Cheng, General Principles of Law as Applied by International Courts and Tribunals 305 (1953).

325. I. Brownlie, System of the Law of Nations: State Responsibility Part I, at 59 (1983).
326. Van Lier, *supra* note 316, at 110.
327. Iluyomade, "The Scope and Content of a Complaint of Abuse of Right in International Law," 16 Harv. Int'l. L.J. 47, 48 (1975).
328. South West Africa Case, *supra* note 239, at 47.
329. Case Concerning the Barcelona Traction. Light and Power Company, Ltd., (New Application: 1962) (Belgium v. Spain) Second Phase 1970 ICJ 4, 32 [hereafter cited as Barcelona Traction].
330. Ago, "5th Report on State Responsibility" in [1976] 2 Y.B. Int'l. L. Comm'n. 3, 28-29, 29 U.N. Doc. A/CN.4/SER.A/1976/Add.1 (Part 1); Aust. Memorial, *supra* note 293, at 326-30, 500-02. The Australian argument for the existence of actio popularis was not meant to apply to everyday acts of marine pollution. See, Nuclear Tests Case, *supra* note 231, at 362; Aust Memorial, *supra* note 293, at 479, 519, 524-26.
331. Nuclear Tests Case, *supra* note 231, at 369-70.
332. Case Concerning Military and Paramilitary Activities In and Against Nicaragua (Nicaragua v. U.S.) Order, reprinted in 78 AJIL 750, 771-72 (1984) [hereafter cited as Nicaragua v. U.S.).
333. The report is at Ago, *supra* note 330.
334. Nicaragua v. U.S., *supra* note 332, at 771.
335. Vienna Convention on the Law of Treaties, Art. 53, reprinted in Brownlie, *supra* note 227, at 252.
336. [1966] 2 Y.B. Int'l. L. Comm'n. 247-48, U.N. Doc. A/CN.4/SER.A/1966/Add.1, reprinted in 61 AJIL 409-12 (1967).
337. *Id.* at 248. A comprehensive study of jus cogens found no application of the concept in state treaty practice nor did it find international judicial decisions helpful in elucidating the concept. Furthermore, opinions in scholarly writings on the existence and nature of jus cogens are so varied that no clear understanding of it is possible. J. Sztucki, Jus Cogens and the Vienna Convention on the Law of Treaties: A Critical Approach 76-96 (1974).
338. On the other hand, at UNCLOS III Spain described the duty to protect the marine environment as a rule of jus cogens. Van Reenen, "Rules of Reference in the New Convention on the Law of the Sea, in Particular in Connection with the Pollution of the Sea by Oil from Tankers," 12 Nether. Y.B. Int'l. L. 3, 20 n. 66 (1981). Boczek agrees with this view. Boczek, "The Protection of the Antarctic Ecosystem: A Study in International Environmental Law," 13 Ocean Dev. & Int'l. L. 347, 389 (1983-1984). Article 19 of the ILC Draft Articles on State Responsibility lends support to the argument that at least massive marine pollution violates jus cogens. [1980] 2 Y.B. Int'l. L. Comm'n. 32, U.N. Doc. A/CN.4/SER.A/1980/Add.1 (Part 2).
339. For an argument that "conditions are ripe for the emergence of the right of individual states to an unpolluted marine environment" and

- the consequent right to take legal action, see, Teclaff, *supra* note 269, at 543. See also, Howell, "An Approach to the Development of International Jurisdiction to Deal with Environmental Problems," 5 *Asian Perspectives* 218, 232-33 (1981).
340. Brownlie, *supra* note 325, at 165.
 341. Int'l. L. Comm'n., *supra* note 338, at 31.
 342. For writers holding abuse of rights exists, see, Cheng, *supra* note 324, at 121-36; Lauterpacht, *supra* note 240, at 162-65; Iluyomade, *supra* note 327, at 72; Taylor, "The Content of the Rule Against Abuse of Rights in International Law," 46 *Brit. Y.B. Int'l. L.* 323, 323 (1975).
 343. Certain German Interests in Polish Upper Silesia (Germany v. Poland) Merits 1926 PCIJ ser. A, No. 7, at 30; Case of the Free Zones of Upper Savoy and the District of Gex (Switzerland v. France) 1932 PCIJ ser. A/B, No. 46, at 167.
 344. See, Case Concerning Rights of Nationals of the United States of America in Morocco (France v. U.S.) 1952 ICJ 176, 212; Fisheries Case (U.K. v. Norway) 1951 ICJ 116, 142; Considerations of Admission of a State in Membership in the United Nations (Advisory Opinion) 1948 ICJ 57, 63.
 345. See, Barcelona Traction, *supra* note 329, at 324 (Ammoun, dissenting); Nottebohm Case (Liechtenstein v. Guatemala) Second Phase 1955 ICJ 4, 37-38 (Read, dissenting); Ambatielos Case (Greece v. U.K.) Preliminary Objection 1952 ICJ 28, 56 (Spiropoulos, separate opinion); Asylum Case (Colombia v. Peru) 1950 ICJ 266, 349 (Azevedo, dissenting).
 346. Anglo-Iranian Case, *supra* note 239, at 133 (Alvarez, dissenting).
 347. North American Dredging Co. of Texas Case, noted in Garcia-Amador, "International Responsibility 5th Report" in [1960] *Y.B. Int'l. L. Comm'n.* 41, 59 *U.N. Doc. A/CN.4/SER.A/1960/Add.1*.
 348. Bering Sea Arbitration, discussed in P. Corbett, *I Cases on International Law: Peace* 136 (W. Walker ed. 6th ed. 1947).
 349. H. Gutteridge, Comparative Law 68 (2d ed. 1949); Berber, *supra* note 31, at 210.
 350. Schwarzenberger, *supra* note 317, at 150; Brownlie, *supra* note 230, at 445. See also, Bothe, "International Legal Problems of Industrial Siting in Border Areas and National Environmental Policies" in Transfrontier Pollution and the Role of States 79, 82 (Org. for Economic Cooperation and Development ed. 1981); Steiger, et al, "The Fundamental Right to a Decent Environment" in Bothe, *supra* note 268, at 15-16. Brown states: "The existence and scope of the doctrine of abuse of rights in international law is at least controversial." Brown, *supra* note 269, at 128.
 351. Iluyomade, *supra* note 327, at 61.
 352. Gutteridge (Panel Discussion) in 38 The Grotius Society: Transactions for the Year 1952, at 127.

353. Lester, *supra* note 301, at 833-34; Gutteridge, "Abuse of Rights," 5 Cambridge L.J. 22, 43 (1933-1935).
354. Schwarzenberger and Brown, *supra* note 228, at 85; Hakapaa, *supra* note 43, at 140. *Contra*, Iluyomade, *supra* note 327, at 68-72.
355. Schwarzenberger, *supra* note 317, at 154-56. See also, Brownlie, *supra* note 325, at 70.
356. See, Teclaff, "Harmonizing Water Resources Development and Use with Environmental Protection in Municipal and International Law," 16 Nat. Resources J. 808, 844 (1976); Mani, "Ocean Dumping of Radioactive Wastes," 24 Ind. Int'l. L.J. 224, 239, 243 (1984).
357. Report of the Agent of the United States Before the Lake Ontario Claims Tribunal, reprinted in 8 ILM 118 (1969) [hereafter cited as Rpt. of U.S. Agent]. For accounts of the dispute, see, Lilich, "The Gut Dam Claims Agreement with Canada," 59 AJIL 892 (1966); M. Whiteman, III Digest of International Law 768-70 (1964).
358. Agreement between the Government of the United States of America and the Government of Canada Concerning the Establishment of an International Arbitral Tribunal to Dispose of United States Claims relating to Gut Dam, done 25 March 1965, reprinted in 4 ILM 468 (1965).
359. Rpt. of U.S. Agent, *supra* note 357, at 142.
360. T. McDorman, N. Letalik, H. Mills, D. Johnston, and E. Gold, The Marine Environment and the Caracas Convention on the Law of the Sea 12 (1981); de Mestral, *supra* note 111, at 487.
361. Schneider, *supra* note 13, at 165-66.
362. Lake Lanoux Case (Spain v. France) 12 R. Int'l. Arb. Awards 281 (1957), 24 ILR 101 (1957), digested in 53 AJIL 156 (1950) [hereafter cited as Lake Lanoux]. For an analysis of the case, see, Laylin and Bianchi, "The Role of Adjudication in International Rivers: The Lake Lanoux Case," 53 AJIL 30 (1959).
363. Lake Lanoux, *supra* note 362, at 112.
364. *Id.* at 113.
365. *Id.* at 123.
366. *Id.* at 121.
367. *Id.* at 123.
368. Ando, *supra* note 301, at 336; O'Connell, *supra* note 230, at 592; Timagenis, *supra* note 15, at 114; de Mestral, *supra* note 111, at 486-87; Kuwabara, *supra* note 285, at 32-33; Boyle, "Marine Pollution under the Law of the Sea Convention," 79 AJIL 347, 366 (1985).
369. Schneider, *supra* note 13, at 166. Goldie says Lake Lanoux, along with Corfu Channel and Trail Smelter "clearly point to the emergence of strict liability as a principle of public international law." Goldie, *supra* note 291, at 306. See also, Springer, *supra* note 18, at 133.

370. Lake Lanoux, *supra* note 362, at 123.
371. *Id.* at 121.
372. J. Simpson and J. Fox, International Arbitration: Law and Practice 63, 250 (1959). The ILC adopted Model Rules on Arbitral Procedure, Art. 35 of which states: "The validity of an award may be challenged by either party on...the following grounds: (a) That the Tribunal exceeded its powers..." [1958] 2 Y.B. Int'l. L. Comm'n. 86, U.N. Doc. A/CN.4/SER.A/1958/Add.1.
373. *Societe Energie Electrique du Littoral Meditteraneeen v. Compagnia Impresse Elettriche Liguri*, 9 Ann. Dig. 120, 121 (Italian Ct. of Cassation 1939).
374. *Aargau v. Zurich* (1878), digested in Schindler, "The Administration of Justice in the Swiss Federal Court in Intercantonal Disputes," 15 AJIL 149, 170 (1921); *Solothurn v. Aargau* (1900), digested in *id.* at 172, 173.
375. *Wurtemberg and Prussia v. Baden*, 4 Ann.Dig. 128, 131 (German Staatsgerichtshof 1927).
376. D. Caponera, The Law of International Water Resources 19 (1980).
377. Lester, *supra* note 301, at 845-46.
378. Ando, *supra* note 301, at 337.
379. Teclaff, *supra* note 269, at 532.
380. *Nebraska v. Wyoming*, 325 US 589, 616 (1944).
381. For other problems encountering the use of national decisions for international law, see, *supra* note 255 and accompanying text.
382. *Case of Certain Norwegian Loans (France v. Norway)* 1957 ICJ 9, 94 (Read, dissenting).
383. *Convention on the Territorial Sea and the Contiguous Zone*, done 29 Apr. 1958, 516 UNTS 205; *Convention on the High Seas*, done 29 Apr. 1958, 450 UNTS 11; *Convention on Fishing and Conservation of Living Resources*, done 29 Apr. 1958, 559 UNTS 285; *Convention on the Continental Shelf*, done 29 Apr. 1958, 499 UNTS 311.
384. R. Churchill and A. Lowe, The Law of the Sea 14-15 (1983).
385. See, McDorman, et al, *supra* note 360; Churchill and Lowe, *supra* note 384, at 217-49; Johnston, *supra* note 1, *passim*; Hakapaa, *supra* note 43, at 75-125; G. Timagenis, II International Control of Marine Pollution 577-629 (1980).
386. [1955] 2 Y.B. Int'l. L. Comm'n. 21-22, U.N. Doc. A/CN.4/SER.A/1955/Add. 1.
387. See, e.g., [1955] 1 Y.B. Int'l. L. Comm'n. 222, 263, U.N. Doc. A/CN.4/SER.A/1955
388. *Id.* at 264.

389. Legault, "The Freedom of the Seas: A License to Pollute," 21 U. Toronto L.J. 211, 216 (1971).
390. See, Teclaff, *supra* note 269, at 529 n. 2.
391. See note 269 and accompanying text.
392. See notes 318-321 and accompanying text.
393. Hickey, *supra* note 285, at 438. See also, Birnie, "The Law of the Sea Before and After UNCLOS I and UNCLOS III" in Barston and Birnie, *supra* note 12, at 8, 18.
394. See, M. Whiteman, IV Digest of International Law 553-72 (1965).
395. *Id.* at 549.
396. Margolis, "The Hydrogen Bomb Experiments and International Law," 64 Yale L.J. 629, 637-39 (1954-1955).
397. Whiteman, *supra* note 394, at 561-602.
398. *Id.* at 596.
399. Int'l. L. Comm'n., *supra* note 386, at 20-32.
400. Int'l. L. Comm'n., *supra* note 387, at 11-12.
401. *Id.* at 33.
402. *Id.* at 58-63.
403. [1956] 2 Y.B. Int'l. L. Comm'n. 286, U.N. Doc. A/CN.4/SER.A/1956/Add.1.
404. McNair, The Law of Treaties 393 (1967).
405. Reprinted in Brownlie, *supra* note 227, at 245.
406. Report of the First United Nations Conference on the Law of the Sea, Cmnd. 584, No. 15, at 48 (1958).
407. Lomio, "International Law and Disposal of Radioactive Wastes at Sea," 15 New England L.R. 253, 266 (1980).
408. See, McDorman, et al, *supra* note 360, at 9; Brown, *supra* note 269, at 145; Caflisch, *supra* note 313, at 11; Int'l. L. Comm'n., *supra* note 403, at 294; Bernhardt, *supra* note 131, at 269 n. 13. Contra, Teclaff, *supra* note 269, at 551; W. Extavour, The Exclusive Economic Zone: A Study of the Evolution and Progressive Development of the International Law of the Sea 214 (1979).
409. For a general discussion of this subject, see, Slonium, "The Right of Innocent Passage and the 1958 Geneva Conference on the Law of the Sea," 5 Colum. J. Transnat'l. L. 96 (1966).
410. Int'l. L. Comm'n., *supra* note 403, at 274.

411. L. Hydeman and W. Berman, International Control of Nuclear Maritime Activities 174 (1960).
412. See, *id.* at 169-75; Teclaff, *supra* note 269, at 548; Caflisch, *supra* note 313, at 10; Institute of Int'l. Law, as noted in Teclaff, *supra* note 269, at 550; Goldie, *supra* note 252, at 109.
413. Hydeman and Berman, *supra* note 411, at 170.
414. M'Gonigle and Zacher, *supra* note 56, at 245.
415. *Id.*
416. Hakapaa, *supra* note 43, at 71; Taylor, Book Review, 13 MPB 255, 255 (1982).
417. Hakapaa, *supra* note 43, at 51. Taylor puts the percentage at 68%. Taylor, *supra* note 416, at 255. Another estimate is 85%. Wallace, "Vessel Source Pollution" 9 (paper given at European Environmental Bureau Conf. on the Environment and the Law of the Sea, 27-29 Jan. 1983, Brussels).
418. Hakapaa, *supra* note 43, at 184-85; Institute of Int'l. Law, as noted in Teclaff, *supra* note 269, at 550; M. McDougal and W. Burke, The Public Order of the Oceans: A Contemporary International Law of the Sea 258 (1962).
419. LOSC Convention, *supra* note 34a.
420. See, Oda, *supra* note 50, at 3-8; Henkin, "The General Assembly and the Sea" in The Law of the Sea: The United Nations and Ocean Management 2 (L. Alexander ed. 1971); Timagenis, *supra* note 385, at 577.
421. Zuleta, "Introduction" in The Law of the Sea: Official Text of the United Nations Convention on the Law of the Sea with Annexes and Index xix, xix (U.N. ed. 1983).
422. *Id.* at xxiv. The history of UNCLOS III has been traced by Oxman and Stevenson, see, 68 AJIL 1 (1974); 69 AJIL 763 (1975). After 1975 Oxman alone continued the chronicle, see, 71 AJIL 247 (1977); 72 AJIL 57 (1978); 73 AJIL 1 (1979); 74 AJIL 1 (1980); 75 AJIL 211 (1981); 76 AJIL 1 (1982).
423. Simmonds, "The Status of the United Nations Convention on the Law of the Sea," 34 Int'l. Comp. L. Qtly. 359, 367 (1985).
424. 4 Law of the Sea Bull. Feb. 1984, at 5. The treaty closed for signature 9 Dec. 1984 by which time 159 states had signed. U.N., Press Release SEA/163 10 Dec. 1984, at 1.
425. Guruswamy, "Environmental Protection and the United Nations Convention on the Law of the Sea," Lloyd's Mari. & Comm. L. Qtly. 1983 at 705, 706 (1983).
426. See, Allott, "Power Sharing in the Law of the Sea," 77 AJIL 1, 8 (1983).
427. Oxman, "Interview by Maxine McClosky of Bernard Oxman" 1 (typescript)

from the Whale Center, Oalkland, California, 12 May 1982); Birnie, "Global Cooperation: The Third United Nations Conference on the Law of the Sea (UNCLOS III)" 57 (undated, unpublished mss.); Koh, "The Third United Nations Conference on the Law of the Sea: What was Accomplished?" in 46 L. & Contemp. Probs. 5, 7 (1983); Gold, "Environmental Responsibilities of Small Island States" in Problems of Development and Ocean Management in the Eastern Caribbean: Economic, Legal, Environmental and Planning Aspects 61, 63 (Proceedings of an Int'l. Seminar held at Kingston, St. Vincent and the Grenadines, West Indies 11-13 May 1981, E. Gold, et al, eds. undated); Richardson, "Power, Mobility and the Law of the Sea," 59 For. Affairs 902, 917 (1979-1980).

428. Allott, *supra* note 426, at 1.
429. Id. See also, Moore, quoted in Kerr, "Making Sense of the Law of the Sea," Va. L. School Rpt. Fall 1984, at 9, 9 (1984); Valticos, "Introduction" in The New Law of the Sea: Selected and Edited Papers of the Athens Colloquium on the Law of the Sea, September 1982, at 1, 7 (C. Rozakis and C. Stephanou eds. 1983).
430. North Sea Continental Shelf Cases (Fed. Rep. Germany v. Denmark; Fed. Rep. Germany v. The Netherlands) 1969 ICJ 3, 38-45; Case Concerning the Continental Shelf (Tunisia v. Libya) 1982 ICJ 13, 38 [hereafter cited as Tunisia v. Libya]; Fisheries Jurisdiction Case (U.K. v. Iceland) 1974 ICJ 3, 18, 24; Namibia Case (Advisory Opinion) 1971 ICJ 16, 46-47.
431. See, Lee, "The Law of the Sea Convention and Third States," 77 AJIL 541 (1983); Howard, "The Third United Nations Conference on the Law of the Sea and the Treaty/Custom Dichotomy," 16 Tex. Int'l. L.J. 321, 327 (1981); Flemming, "Customary International and the Law of the Sea: A New Dynamic" in The Law of the Sea: State Practice in Zones of Special Jurisdiction 489 (T. CLingan ed. 1982); Macrae, "Customary International Law and the United Nations' Law of the Sea Treaty," 13 Cal. West. Int'l. L.J. 181 (1983).
432. See, Baxter, "Treaties and Custom" in 129 Recueil Des Cours 1970-I, at 25, 31-74 (Academie de Droit Int'l. 1976); Akehurst, "Custom as a Source of International Law," 47 Brit. Y.B. Int'l. L. 1974-1975, at 1 (1977).
433. Howard, *supra* note 431, at 333.
434. Tunisia v. Libya, *supra* note 430, at 74; Howard, *supra* note 431, at 332; Lee, *supra* note 431, at 563.
435. Oxman, *supra* note 427, at 2.
436. Howard, *supra* note 431, at 333.
437. Charney, "The United States and the Law of the Sea After UNCLOS III: The Impact of General International Law," 46 L. & Contemp. Probs. 37, 38 (1983).
438. Howard, *supra* note 431, at 333.
439. Lee, *supra* note 431, at 561-62.

440. Charney, *supra* note 437, at 42.
441. Though the article adds, "and in accordance with their duty to protect and preserve the marine environment," there remains a fundamental tension in the provision.
442. North Sea Continental Shelf Cases, *supra* note 430, at 42.
443. *Id.*
444. Tunisia v. Libya, *supra* note 430, at 229.
445. North Sea Continental Shelf Cases, *supra* note 430, at 71.
446. See, Barston and Birnie, *supra* note 12, at 121.
447. Booth, "International Ship Pollution Law: Recent Developments at UNCLOS," 4 Mar. Policy 215, 223, 228 (1980); D. O'Connell, II The International Law of the Sea 996 (I. Shearer ed. 1982).
448. Barston and Birnie, *supra* note 12, at 120-21.
449. Malone, "The United States and the Law of the Sea After UNCLOS III," 46 L. & Contemp. Probs. 29, 29 (1983); Ambassador Clingham, as mentioned in Guruswamy, *supra* note 425, at 710; Amer. Law Institute, Restatement of the Law: Foreign Relations Law of the United States (Revised) Tentative Draft No. 3, at 55 (1982).
450. Rifkind, 50 Parliamentary Debates (Hansard) House of Commons 13 Dec. 1983, at col. 973.
451. Wallace, *supra* note 416, at 3.
452. Alexander, et al. "The Costs of Failure at the Third Law of the Sea Conference," 9 J. Mari. L. & Comm. 1, 10 (1977).
453. Anand, "U.N. Convention on the Law of the Sea and the United States," 24 Ind. J. Int'l. L. 153, 195 (1984).
454. Frank, "Environmental Consequences of Deep-Sea Mining" in Law of the Sea: Conference Outcomes and Problems of Implementation 319, 319 (E. Miles and J. Gamble eds. 1977). See also, Rucker, "The Politics of Ocean Pollution: The Third Law of the Sea Conference and International Structures for Environmental Protection," 1-2 Boston Col. Int'l. & Comp. L.J. 283, 283 (1977-1979); Ramakrishna, "Environmental Concerns and the Law of the Sea," 16 J. Mari. L. & Comm. 1, 19 (1985).
455. Abrams, "The Environmental Problem of the Oceans: An International Stepchild of National Egotism," 5 Envi. Affairs 3, 16, 28 (1976); Jagota, "Basic Issues for the Forthcoming Conference on the Law of the Sea," 14 Ind. J. Int'l. L. 141, 144 (1974).
456. McManus, "Environmental Provisions in the Revised Single Negotiating Test" in Miles and Gamble, *supra* note 454, at 269, 276.
457. *Id.* Because the EEZ idea and the twelve mile territorial sea have entered customary law, this statement cannot properly apply to

them. But if it refers to issues of deepsea mining it may have some validity.

- 458. Panel on the Law of Ocean Uses, "United States Policy on the Law of the Sea," 79 AJIL 151, 153 (1985).
- 459. Boehmer-Christianson, "Marine Pollution Control: UNCLOS III as the Partial Codification of International Practice," 7 *Envi. Policy & L.* 71, 71 (1981).
- 460. *Id.*
- 461. McDorman, *supra* note 360, at 89.
- 462. Reprinted in Brownlie, *supra* note 227, at 245.
- 463. Certain Expenses of the United Nations (Article 17, paragraph 2, of the Charter) 1962 ICJ 151, 184 (Spender, separate opinion). Similarly, see, South West Africa Cases, 1966 ICJ 4, 355 (Jessup, dissenting opinion); McNair, *supra* note 404, at 367.
- 464. Oxman, "The Third United Nations Conference on the Law of the Sea: The Eighth Session," 74 AJIL 1, 35 (1980).
- 465. This does not mean that applying travaux preparatoires to treaty interpretation is simple, it is not. See, Reisman, "The Regime of Straits in National Security: An Appraisal of International Lawmaking," 74 AJIL 48, 56 n. 20 (1980).
- 466. See, Buzan, "Negotiating by Consensus: Developments in Technique at the United Nations Conference on the Law of the Sea," 75 AJIL 324 (1981).
- 467. Allott, *supra* note 426, at 6.
- 468. Warioba, "Commentary" in Law of the Sea: Caracas and Beyond 18, 23 (F. Christy, et al, eds. 1975). See also, Rosenne, "The Reconciliation of the Old and the New Law of the Sea" in Park, *supra* note 216, at 63, 85.
- 469. Hakapaa, *supra* note 43, at 30.
- 470. McDorman, et al, *supra* note 360, at 6. See also, Kerr, *supra* note 429, at 9.
- 471. Timagenis, *supra* note 385, at 585.
- 472. *Id.*
- 473. *Id.* at 586, 588.
- 474. *Id.* at 585.
- 475. *Id.* at 585 n. 31.
- 476. Van Reenen, *supra* note 338, at 10 n. 21.

477. Allott, *supra* note 426, at 7.
478. *Id.*
479. *Id.*
480. See, McNair, *supra* note 404, at 421.
481. Quoted in T. Elias, The Modern Law of Treaties 79 (1974). Of the preparatory work of the Continental Shelf Convention it has been said: "There is always a danger, when the travaux preparatoires are...extensive and diverse...that the commentator will subconsciously interpret the record as supporting his own preconceived notions on the correct meaning of the Article in question." Brown, *supra* note 269, at 11.
482. Bernhardt, *supra* note 131, at 271.
483. Timagenis, *supra* note 385, at 604.
484. *Id.*
485. Hakapaa, *supra* note 43, at 119.
486. *Id.*; Timagenis, *supra* note 385, at 604 n. 47; Bernhardt, *supra* note 131, at 275.
487. McManus, *supra* note 456, at 273.
488. Timagenis, *supra* note 385, at 605-06; Hakapaa, *supra* note 43, at 119; McDorman, et al, *supra* note 360, at 38; O'Connell, *supra* note 447, at 997.
489. Hakapaa, *supra* note 43, at 119.
490. Timagenis, *supra* note 385, at 605-06.
491. *Id.*; Hakapaa, *supra* note 43, at 120.
492. Hakapaa, *supra* note 43, at 120.
493. *Id.*
494. Timagenis, *supra* note 385, at 605-06.
495. Van Reenen, *supra* note 338, at 8-12, 38.
496. McDorman, et al, *supra* note 360, at 38.
497. Timagenis, *supra* note 385, at 605-06.
498. Hakapaa, *supra* note 43, at 121.
499. Boehmer-Christiansen, *supra* note 459, at 74 n. 9.
500. Van Reenen, *supra* note 338, at 10.
501. Rojahn (Panel Discussion) in Park, *supra* note 216, at 489.

502. Schneider, "Pollution from Vessels" in Johnston, *supra* note 1, at 203, 215. See also, Hakapaa, *supra* note 43, at 121; North Sea Continental Cases, *supra* note 430, at 42.
503. McDorman, et al, *supra* note 360, at 38.
504. Hakapaa, *supra* note 43, at ____.
505. Timagenis, *supra* note 385, at 604.
506. Allott, *supra* note note 426, at 11. See also, McDorman, et al, *supra* note 360, at 37.
507. Efforts to harmonize national pollution control laws are underway in a number of European IGOs, but the process is slow and cumbersome. Bothe, "The Trends in Both National and International Politics for Achieving a Unification of Standards in Pollution Matters," 3 Zeitschrift fur Umweltpolitik 293 (1981).
508. On the cynical approach, see, McManus, *supra* note 456.
509. Schneider (Panel Discussion) in Proceedings American Society of International Law, 74th Meeting 239 (1981).
510. Charney, *supra* note 437, at 42.
511. *Supra* pages 58-59.
512. Booth, *supra* note 447, at 221 n. 35.
513. Boehmer-Christianson, *supra* note 459, at 73.
514. See, *infra* notes 785-795 and accompanying text.
515. "A flag State is the State whose nationality a particular vessel has. A coastal State is the State in one of whose maritime zones a particular vessel is. A port State is the State in one of whose ports a particular vessel is." Churchill and Lowe, *supra* note 384, at 223.
516. M'Gonigle and Zacher, *supra* note 56, at 248. On the other hand, "there may be little incentive for a flag State to punish its own nationals for offenses in foreign waters, since such enforcement might place its ships at a competitive disadvantage unless all States were equally vigilant." Abrams, *supra* note 455, at 25.
517. See, Sebek, "The Legal Regime of Oceans at Conference Table Again," 8 MPB 145, 145-46 (1977); Lowe, "The Enforcement of Marine Pollution Regulations," 12 San Diego L.R. 624, 642 (1975).
518. Boehmer-Christianson, *supra* note 459, at 73; Bernhardt, *supra* note 131, at 286.
519. de Bievre, "Memorandum on Shipping and the Environment Supplement No. 1," at 9 (typescript from the European Environmental Bureau 1983).
520. Birnie, "Development in the Law for Prevention of Marine Pollution from Petroleum during 1983-1984," at 20-22 (unpublished

undated mss.). For discussions of the Memorandum, see, Lowe, "A Move Against Substandard Shipping," 6 Mar. Policy 326 (1982); European Parl. Working Docs. 1983-1984, Doc. 1-1414/83, 20 Dec. 1984; Anon., "7,350 Ships Inspected under Paris Memorandum," IMO News No. 1, at 16, 16 (1985).

- 521. de Bievre, *supra* note 519, at 3.
- 522. Arts. 223-233 provide numerous safeguards for the ship suspected of an offense. The flag state may even suspend the proceedings.
- 523. Lowe, *supra* note 517, at 642-43. On the problem of flag of convenience states, see, Schneider, *supra* note 13, at 93.
- 524. See, *supra* note 416-17 and accompanying text.
- 525. Wulf, "Comment" in 46 L. & Contemp. Probs. 155, 155 (1983).
- 526. See, Hakapaa, *supra* note 43, at 192.
- 527. M'Gonigle and Zacher, *supra* note 56, at 244-47; O'Connell, *supra* note 447, at 994-49; Churchill and Lowe, *supra* note 384, at 226; McDorman, et al, *supra* note 360, at 32; Boyle, *supra* note 368, at 17. Some states with strong anti-pollution laws may have to amend their law to conform with the less strict LOSC. McDorman, "National Legislation and Convention Obligations: Canadian Vessel-Source Pollution Law," 7 Mar. Policy 302, 303 (1983); Hakapaa, *supra* note 43, at 242; Schneider, "Prevention of Pollution from Vessels or Don't Give up the Ship" in The New Nationalism and the Use of Common Spaces: Issues in Marine Pollution and the Exploitation of Antarctica 7, 16 (J. Charney ed. 1982).
- 528. Bernhardt, *supra* note 131, at 307. See also, Boyle, *supra* note 368, at 365.
- 529. O'Connell, *supra* note 447, at 993-94.
- 530. Id. at 995; McManus, *supra* note 456, at 276; M'Gonigle and Zacher, *supra* note 56, at 248.
- 531. See, O'Connell, *supra* note 447, at 995; Bernhardt, *supra* note 131, at 308.
- 532. Gold, *supra* note 427, at 61.
- 532a. See, J.G. Merrills, International Dispute Settlement 117-40 (1984); Carnegie, "The Law of the Sea Tribunal," 28 Int'l. & Comp. L. Qrtly. 669 (1984); Caflisch, "The Settlement of Disputes Relating to Activities in the International Seabed Area" in Rozakis and Stephanow, *supra* note 429, at 303; Riphagen, "Dispute Settlement in the 1982 United Nations Convention on the Law of the Sea" in id. at 281; Adede, "The Basic Structure of the Disputes Settlement Part of the Law of the Sea Convention," 11 Ocean Dev. & Int'l. L.J. 125 (1982).
- 533. Adede, "Law of the Sea: Scope of the Third Party Compulsory

- Procedures for Settlement of Disputes," 71 AJIL 305, 307 (1977).
534. See, Schneider, *supra* note 13, at 180, 182.
535. Sohn, "The Law of the Sea Crisis," 58 St. John's L.R. 237, 264 (1984).
536. Riphagen, *supra* note 532a, at 298 n. 16; Sohn, "Problems of Dispute Settlement" in Miles and Gamble, *supra* note 454, at 230; Bernhardt, "Law of the Sea, Settlement of Disputes" in 1 Encyclopedia of Public International Law 133, 135-36 (Max Planck Institute for Comparative Public Law and International Law ed. 1981).
537. Boyle, *supra* note 368, at 357.
538. See, McDorman, et al, *supra* note 360, at 89-90.
539. International Convention for the Prevention of Pollution from Ships, done 2 Nov. 1973, reprinted in 12 ILM 1319 (1973), 17 ILM 546 (1978); IMO, IMO Regulations for the Prevention of Pollution by Oil (1983).
540. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, done 29 Dec. 1972, reprinted in 11 ILM 1294 (1972).
541. OILPOL Convention, *supra* note 5. For a discussion of the treaty, see, M'Gonigle and Zacher, *supra* note 56, at 85-106.
542. Churchill, "The Role of IMCO in Combating Marine Pollution" in Cusine and Grant, *supra* note 57, at 73, 78; M'Gonigle and Zacher, *supra* note 56, at 107.
543. For descriptions of MARPOL 73/78, see, Anon. "MARPOL 73/78," IMO News No. 4, at 10, 10 (1982); O'Connell, *supra* note 447, at 1003-06; Booth, *supra* note 447, at passim; Sebek, "The Mixed Blessings of the Latest Marine Pollution Package," 9 MPB 85 (1978); Horrocks, "The 1973 Marine Pollution Convention: Problems and Solutions," 1 Mar. Policy 52 (1977); Kerr, "No Dumping in this Ocean: Nearing the End of Ship-Generated Pollution," 7 Int'l. L. & Politics 545 (1974); Sielen and McManus, *supra* note 16, at 140.
544. IMO Doc. MEPC 21/19, "Report of the Marine Environment Protection Committee on its Twenty-First Session" Annex 18 (16 May 1985) [hereafter cited as MEPC 21st Sess.].
545. Tacit amendment means that the body adopting the amendment fixes a time period within which contracting parties have the opportunity to notify their acceptance or rejection of the amendment, or to remain silent. In case of silence, the amendment is deemed accepted by that party. Timagenis, *supra* note 385, at 555.
546. IMO, *supra* note 539, at 5.
547. Churchill, *supra* note 542, at 80.
548. Sielen and McManus, *supra* note 16, at 152.
549. Horrocks, *supra* note 543, at 53; M'Gonigle and Zacher, *supra* note 56, at 122. MEPC reports often contain references to these

- problems. See, e.g., MEPC 21st Sess., *supra* note 544, at 24, 26.
550. Horrocks, *supra* note 543, at 54; M'Gonigle and Zacher, *supra* note 56, at 110-11.
551. SBTs are tanks used only to contain seawater ballast and never for the transport of oil. Use of SBTs eliminates mixing of oil and water resulting from the carriage of ballast water in cargo tanks. IMO, "Preventing Marine Pollution" 11-12 (typescript Jan. 1985).
552. Horrocks, *supra* note 543, at 54.
553. *Id.*
554. *Id.* at 53.
555. Anon., *supra* note 543, at 11; M'Gonigle and Zacher, *supra* note 56, at 122.
556. Anon., *supra* note 543, at 11.
557. Horrocks, *supra* note 543, at 53.
558. Sielen and McManus, *supra* note 16, at 156-57.
559. See, Churchill, *supra* note 542, at 81; Birnie, "Enforcement of International Laws for Prevention of Oil Pollution from Vessels" in Cusine and Grant, *supra* note 57, at 95, 100.
560. Sielen and McManus, *supra* note 16, at 173.
561. See, Sebek, *supra* note 543, at 86; Booth, *supra* note 447, at 216-17; Anon., "The Fight Against Marine Pollution," IMO News No. 3, at 8, 10 (1982).
562. MEPC 21st Sess., *supra* note 544, at 12.
563. IMO Doc. MEPC 21/2, at Annex 2, at 1 (18 March 1985). Reservations to certain Regulations have been made by a number of parties. Friends of the Earth and Werkgroep Nordzee, "Evaluation of the International Convention for the Prevention of Marine Pollution from Ships, 1973/1978," N. Sea Monitor 84.3, at 2, 3 (1984).
564. MEPC 21st Sess., *supra* note 544, at 31, Annex 14.
565. *Id.* at Annex 14, at 1-4.
566. "'Incident' means an event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance" (Art. 2(6)).
567. MEPC 21st Sess., *supra* note 544, at 31.
568. IMO Doc. MEPC 20/19, "Report of the Marine Environment Protection Committee on its Twentieth Session" 28 (24 Sept. 1984) [hereafter cited as MEPC 20th Sess.].
569. *Id.* at 35.
570. *Id.* at 32.

571. Id. at Annex 15, at 1.
572. Reprinted in id. at Annex 16. The MEPC has also approved Guidelines for Reporting Incidents Involving Dangerous Goods in Packaged Form. IMO Doc MEPC 19/18, "Report of the Marine Environment Protection Committee on its Nineteenth Session" 30 (4 Jan. 1984) [hereafter cited as MEPC 19th Sess.].
573. MEPC 21st Sess., supra note 544, at 35.
574. Some doubt that states will properly report may be founded on the poor manner in which parties to the OILPOL Convention have complied with this treaty's reporting duties. See, IMO Doc MEPC 18/18, "Report of the Marine Environment Protection Committee on its Eighteenth Session" 39 (6 Apr. 1983) [hereafter cited as MEPC 18th Sess.].
575. MEPC 21st Sess., supra note 544, at 14.
576. MEPC 19th Sess., supra note 572, at 7-8.
577. MEPC 21st Sess., supra note 544, at Annex 4, at 2.
578. Anon., "Revised Standards on Discharges go to MEPC," IMO News No. 1, at 10, 10 (1985).
579. MEPC 21st Sess., supra note 544, at 12.
580. Id. at 43.
581. Id. at 16. West Germany believes the amendments "remarkably" improve Annex II. Id. at 15. One of the improvements includes making mandatory the IMO Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the IMO International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
582. Id. at 16.
583. Id. at 7, 8, 43.
584. Id. at 6.
585. MEPC 18th Sess., supra note 574, at 17; MEPC 20th Sess., supra note 568, at 17; IMO, supra note 539, passim. The MEPC has also defined terms in Annex I. See, MEPC 18th Sess., supra note 574, at 14.
586. MEPC 18th Sess., supra note 574, at 18.
587. Id. at 32.
588. MEPC 20th Sess., supra note 568, at 14.
589. MEPC 19th Sess., supra note 572, at 15.
590. Id. at 24; MEPC 21st Sess., supra note 544, at 26.
591. MEPC 18th Sess., supra note 574, at 19.

592. MEPC 19th Sess., *supra* note 572, at 19.
593. *Id.* at 19-20.
594. Under Annex I the "special areas" are the Mediterranean Sea, Red Sea (including the Suez and Aqaba Gulfs), Baltic Sea, Black Sea, and the Gulfs area (the sea areas between Ras al Hadd and Ras al Fasteh (Annex I, Reg. 10(1))).
595. M'Gonigle and Zacher, *supra* note 56, at 113.
596. MEPC 19th Sess., *supra* note 572, at 18. This questionnaire is in addition to treaty Art. 11(1)(d) requiring parties to submit "a list of reception facilities including their location, capacity and available facilities and other characteristics..."
597. *Id.*
598. See, MEPC 20th Sess., *supra* note 568, at 18. Treaty Art. 17 requires parties to promote, in consultation with IMO, support for parties requesting technical assistance.
599. *Id.* at 25-26.
600. MEPC 21st Sess., *supra* note 544, at 27. For reasons why Annex IV has not been ratified by more states, see, IMO Doc MEPC 20/WG.5, Annex 3 (5 Sept. 1985).
601. See, Churchill, *supra* note 542, at 80; MacNeill, "Impacts of Oil Pollution," 13 *Envi. Policy & L.* 87, 94 (1984); Barston and Birnie, *supra* note 12, at 111; Sielen and McManus, *supra* note 16, at 176-77.
602. See, Johnston, *supra* note 1, at 46; MacNeill, *supra* note 601, at 95; Anon., "The Fight Against Marine Pollution," IMO News No. 3, at 8, 14 (1985).
603. Anon., "The First Hurdle," 3 *Haz. Cargo Bull.* 9, 9 (1982).
604. Anon., *supra* note 543, at 12.
605. Anon., "MARPOL 73/78 Compliance is High," IMO News No. 3, at 6, 6 (1985).
606. Friends of the Earth and Werkgroep Nordzee, *supra* note 563, at 5-6.
607. *Id.* at 8.
608. See, Symons, "Shipowners Problems in Meeting the Requirements of International Conventions, Particularly relating to Crew Training," BIMCO Bull. III-1983 No. 329, at 7200, 7202 (1983); Symons, (Panel Discussion) in BIMCO Bull. III-1983 No. 329, at 7206, 7207 (1983).
609. For accounts of the LDC's development, see, Timagenis, *supra* note 15, at 171-92; Amer. Society of Int'l. Law, *Studies in Transnat'l. Legal Policy* No. 2, "The Question of an Ocean Dumping Convention: Conclusions of the Working Group on an Ocean Dumping Convention and Background Paper by Lawson A.W. Hunter" 7-13 (1972) [hereafter cited as ASIL Study]. For reviews of the LDC, see, Timagenis, *supra* note 15, at 189-289; Anon., "Convention on the Prevention of Marine Pollution by Disposal of Wastes and Other Matter," 6 *L. & Policy Int'l. Bus.* 575 (1974); Duncan, "The 1972 Convention

on the Prevention of Marine Pollution by Dumping of Wastes at Sea," 5 J. Mari. L. & Comm. 299 (1974); Leitzell, "The Ocean Dumping Convention - A Hopeful Beginning," 10 San Diego L.R. 502 (1973); Schenker, "Saving a Dying Sea? The London Convention on Ocean Dumping," 7 Cornell Int'l. L.J. 32 (1973); Mendelsohn, "Ocean Pollution and the 1972 United Nations Conference on the Environment," 3 J. Mari. L. & Comm. 385 (1972).

Although the LDC contains no reservation clause, Britain, France, New Zealand, and West Germany have made reservations to their ratifications. M. Bowman and D. Harris, Multilateral Treaties: Index and Current Status 368-69 (1984).

- 610. The draft is reprinted in 10 ILM 1021 (1970).
- 611. Timagenis, *supra* note 15, at 181-82.
- 612. ASIL Study, *supra* note 609, at 11.
- 613. Interview of Manfred Naulke of IMO, conducted 26 Nov. 1984 [hereafter cited as Naulke]. Naulke is a technical officer in IMO's Marine Environment Division and is responsible for administering the LDC as well as being a Technical Secretary for GESAMP.
- 613a. Mr. Naulki admits he is unable to give the LDC as much time as it requires. *Id.*
- 614. IMO Doc. LDC 8/10, "Report of the Eighth Consultative Meeting" Annex 3 (8 March 1984) [hereafter cited as 8th Meeting].
- 615. Norton, "The Oslo and London Dumping Conventions," 12 MPB 145, 147.
- 616. *Id.* See also, Waldichuk, "Lead in the Marine Environment," 11 MPB 241, 242 (1980).
- 617. IMO Doc. LDC II/11, "Report of the Second Consultative Meeting" at Annex IV, at 6 (6 Oct. 1977) [hereafter cited as 2d Meeting].
- 618. IMO Doc. LDC IV/12, "Report of the Fourth Consultative Meeting" at 4, Annex 2 (22 Nov. 1979) [hereafter cited as 4th Meeting].
- 619. *Id.* at 4; IMO Doc. LDC V/12, "Report of the Fifth Consultative Meeting" 6 (9 Oct. 1980) [hereafter cited as 5th Meeting].
- 620. 8th Meeting, *supra* note 614, at 7.
- 621. *Id.* at 8.
- 622. *Id.*
- 623. See, *id.* at 6; 5th Meeting, *supra* note 619, at 6; IMO Doc. LDC VI/12, "Report of the Sixth Consultative Meeting" 5 (10 Nov. 1981) [hereafter cited as 6th Meeting]; IMO Doc. LDC 7/12, "Report of the Seventh Consultative Meeting" 5 (9 March 1983) [hereafter cited as 7th Meeting].
- 624. 8th Meeting, *supra* note 614, at 7.
- 625. *Id.* at 6, 7.

626. 2d Meeting, *supra* note 617, at Annex IV, at 5. "Significant amounts" means a quantity more than 0.1% by weight of the waste to be dumped.
627. 4th Meeting, *supra* note 618, at 9.
628. 8th Meeting, *supra* note 614, at 9.
629. Hakapaa, *supra* note 43, at 108; Timagenis, *supra* note 15, at 142; McManus, *supra* note 312, at 124; Winter, "The Implementation of the Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft," *Zeitschrift für Umweltpolitik* No. 3, at 707, 734 (1980); Eur. Parl. Working Docs. 1983-84, Doc 1-1178/83, at 67 (19 Dec. 1983).
630. See, e.g., 2d Meeting, *supra* note 617, at Annex IV, 6-7.
631. 8th Meeting, *supra* note 614, at Annex 2.
632. Anon., "Call to Act Quickly on Nuclear Waste Disposal," 13 MPB 258, 258 (1982)
633. *Id.*
634. Anon., "Limited step Forward in Sea Waste Monitoring," 13 MPB 336, 336 (1982)
635. *Id.*
636. McManus, *supra* note 312, at 123.
637. Naulke, *supra* note 613.
638. IMO Doc LDC I/16, "Report of the First Consultative Meeting" Annex III (29 Sept. 1976) [hereafter cited as 1st Meeting] (amendments at 5th Meeting, *supra* note 619, at 8).
639. IMO Doc LDC III/12, "Report of the Third Consultative Meeting" 13 (24 Oct. 1978) [hereafter cited as 3d Meeting].
640. *Id.* at 13, Annex 6, reprinted in 18 ILM 521 (1979).
641. 4th Meeting, *supra* note 618, at 10, Annex 5.
642. 8th Meeting, *supra* note 614, at 9.
643. McManus, *supra* note 312, at 126.
644. *Id.* at 127.
645. Norton, *supra* note 615, at 146.
646. See, e.g., 1st Meeting, *supra* note 638, at 21.
647. 2d Meeting, *supra* note 617, at Annex II.
648. 3d Meeting, *supra* note 639, at Annex 3.
649. *Id.*

650. Id.
- 650a. 4th Meeting, supra note 618, at 14-15.
651. Id.
652. 5th Meeting, supra note 619, at Annex 7.
653. 4th Meeting, supra note 618, at 13, 14, Annex 9.
654. 8th Meeting, supra note 614, at 11.
655. 7th Meeting, supra note 623, at Annex 3.
656. 8th Meeting, supra note 614, at 19, Annex 4.
657. 7th Meeting, supra note 623, at 17-18.
658. Id. at 18.
659. For discussions of these arguments, see, Curtis, "Legality of Sea-Bed Disposal of High-level Radioactive Wastes under the London Dumping Convention," 383 (1985); Lomio, supra note 407, at 279-80; Welsch, "LDC: The Admissability of Sub-Seabed Disposal of High-Level Radioactive Waste," 12 Envi. Policy & L. 72 (1984). On the general problem, see, Mani, "Ocean Dumping Radioactive Wastes: Law and Politics," 24 India J. Int'l. L. 224 (1984); Caulfield, "Britain in Deep Water over Sea-Dumping," New Scientist 24 Feb. 1983, at 503 (1983); Anon., "Seabed Disposal of High-Level Radioactive Waste Discussed," IMO News No. 2, at 12 (1984); 8th Meeting, supra note 614, at 22-23.
660. 7th Meeting, supra note 623, at Annex 4.
661. 8th Meeting, supra note 614, at Annex 5.
662. Id. at 31.
663. 8th Meeting, supra note 614, at 12.
664. Information in the table is derived from the IMO documents: LDC.2/Circ.33 Annex; LDC.2/Circ. 47 Annex; LDC.2/Circ.64 Annex; LDC.2/Circ.115 Annex; W/6089A; W/6370A. The latter two are working documents used in preparing the 1981 and 1982 reports, the final version of which will be ready for the 1985 Consultative Meeting.
665. Naulke, supra note 613.
666. Id.
667. Id.
668. Id. See also, 7th Meeting, supra note 623, at 16; IMO Doc LDC 7/9, at 5.
669. See, e.g., IMO Doc LDC.2/Circ.115 Annex.
- 669a. 3d Meeting, supra note 639, at 14.

670. IMO Doc.LDC 8/3/4, at 2 (1984).
671. Id. at 1.
672. 8th Meeting, *supra* note 614, at 12; Naulke, *supra* note 613.
673. IMO Doc. LDC 8/3/4, at 2 (1984).
674. This information is gathered from the sources cited at note 664.
675. Murray, "Report on the Nature and Quantities of Wastes Dumped at Sea, Based on Information Submitted to the Secretariat of the London Dumping Convention" (unpublished paper Aug. 1984).
676. See, *id.* at 7-13.
677. Id. at 2-3, 15-16.
678. Id. at 4-5, 18.
679. Id. at 5.
680. Id. at 5, 19.
681. The quantity of waste dumped is, however, important in one respect, that is, the amount relates to the degree of smothering seabed organisms will suffer. Id. at 1.
682. On regionalism and the law of the sea, see, Alheritiere, *supra* note 192, at 162-63; Janis, "The Roles of Regional Law of the Sea," 12 San Diego L.R. 553 (1975); Okidi, "Towards Regional Arrangements for Regulation of Marine Pollution: An Appraisal of Options," 4 Ocean Dev. & Int'l. L. 1 (1977); Johnston and Enomoto, *supra* note 3.
683. Feld and Johnson, *supra* note 185, at 128.
684. Johnson and Enomoto, *supra* note 3, at 287-88.
685. The following account is drawn from, Winter, *supra* note 629, at 707-08.
686. Id. at 707-08. Britian's construction of the Hudson Stream, a ship designed to dump industrial wastes in the North Sea, was another widely publicised event prompting international action. Timagenis, *supra* note 15, at 124.
687. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, done 15 Feb. 1972, reprinted in 11 ILM 262 (1972). None of the thirteen ratifying states filed reservations. Bowman and Harris, *supra* note 609, at 358-59. For discussions of the ODC, see, Timagenis, *supra* note 15, at 124-70; Letalik, *supra* note 59, at 225-26; Kunig, "Dumping at Sea" in Cusine and Grant, *supra* note 57, at 181, 184-92.
688. When the Paris Commission acts with OSCOM, the association is known as OSPARCOM. The formal name of the Bonn Agreement is the Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, 704 UNTS 3. It was signed in 1969 by eight North Sea states and provides for a coordinated response to oil spills. In 1983 it was amended to include substances other than oil. See, Cmnd. 9104 (1983).

- 689. OSCOM Doc., "First Annual Report" 9 (undated) [hereafter cited as ODC 1st Rpt.].
- 690. Winter, *supra* note 629, at 709 n. 4.
- 691. Norton, *supra* note 615, at 147.
- 692. *Id.*
- 693. *Id.* See also, "Three Year Review of the Joint Monitoring Programme and Assessment of the Data (1979-1981)" in OSCOM, "Eighth Annual Report on the Activities of the Oslo Commission (June 1982 to June 1983)" 173-75 (1984) [hereafter cited as ODC 8th Rpt.].
- 694. ODC 8th Rpt., *supra* note 693, at 174-75; OSCOM, "Ninth Annual Report on the Activities of the Oslo Commission (June 1983 to June 1984)" 86-87, 93-94 (1984) [hereafter cited as ODC 9th Rpt.].
- 695. See, OSCOM Doc. VI/15/1-E (1980).
- 696. ODC 9th Rpt., *supra* note 694 at 119.
- 697. *Id.* at 8.
- 698. Johnston and de Klemm, "The Environmental Law of the Sea" in Johnston, *supra* note 1, at 387, 413.
- 699. ODC 1st Rpt., *supra* note 689, at 8.
- 700. Oslo and Paris Commissions, The First Decade 16 (1984).
- 701. ODC 8th Rpt., *supra* note 693, at 142
- 702. ODC 1st Rpt., *supra* note 689, at 6-7. The revision of the procedure is at, ODC 8th Rpt., *supra* note 693, at 5-6, 137-41.
- 703. See *supra* note 645 and accompanying text.
- 704. Winter, *supra* note 629, at 714.
- 705. Oslo and Paris Commissions, *supra* note 700, at 17.
- 706. OSCOM Doc., "Fourth Meeting of the Commission, Paris 13-16 December 1977," at 1-4.
- 707. Oslo and Paris Commissions, *supra* note 700, at 19.
- 708. ODC 9th Rpt., *supra* note 694, at 9.
- 709. *Id.* at 2.
- 710. ODC 1st Rpt., *supra* note 689, at 9.
- 711. OSPARCOM Secretariat, "Prevention of Marine Pollution in the North-East Atlantic Region" 17 (typescript May 1982) [hereafter cited as OSPARCOM Sect.].

712. ODC 9th Rpt., supra note 694, at 1.
713. As of 30 Nov. 1984, four states had ratified the protocol. Interview of Finn Bjerre of the OSPARCOM Secretariat, conducted Nov. 20 and 30, 1984 [hereafter cited as Bjerre].
714. OSCOM, "Sixth Annual Report on Activities of the Oslo Commission (June 1980 - June 1981)" 2 (1984) [hereafter cited as ODC 6th Rpt.].
715. Id.
716. ODC 8th Rpt., supra note 693, at 6.
717. See supra page 91.
718. See, e.g., ODC 9th Rpt., supra note 694, at 13.
719. See, id. at 15, 28, 66.
720. Id. at 6.
721. Id. at 3, 64.
722. Bjerre, supra note 713.
723. ODC 8th Rpt., supra note 693, at 5.
724. Bjerre, supra note 713.
725. ODC 9th Rpt., supra note 694, at 2, 62.
726. Id. at 2; Bjerre, supra note 713.
727. ODC 9th Rpt., supra note 694, at 56.
728. Id.
729. Id. at 60.
730. Id.
731. Id. at 60.
732. Id.
733. Id. at 61.
734. Id.
735. Id. at 59.
736. Norton, supra note 615, at 149.
737. McManus, supra note 312, at 122; ODC 9th Rpt., supra note 694, at 59, 60.
738. McManus, supra note 312, at 121; Norton, "The Operation of the Dumping at Sea Act 1974," Chem. & Industry 2 Oct. 1976, at 829, 833 (1976).

739. McManus, *supra* note 312, at 130. IAEA's definitions are at: IAEA provisional definition, IAEA Doc. INFOCIRC/205/Add.1/ (10 Jan. 1975); revised definition, IAEA Doc. INFOCIRC/205/Add.1/Rev.1 (Aug. 1978), reprinted in 18 ILM 826 (1979). A further revision is being considered and will be submitted to the IAEA Board of Governors in 1985. IMO Doc. LDC 8/INF.11, at 3.
740. Interview of Peter Hayward, OSPARCOM Secretary, conducted 30 Nov. 1984 [hereafter cited as Hayward].
741. Naulke, *supra* note 613.
742. 3d Meeting, *supra* note 369, at 25.
743. Naulke, *supra* note 613; Hayward, *supra* note 740.
744. Task Team 200, *supra* note 82, at 59. The Consultative Meeting has agreed to use the Task Team's recommendations in planning its future work. 8th Meeting, *supra* note 614, at 17.
745. ODC 9th Rpt., *supra* note 694, at 2.
746. *Id.* at 4.
747. ODC 8th Rpt., *supra* note 693, at 10.
748. *Id.* at 7.
749. Hayward, *supra* note 740.
750. ODC 8th Rpt., *supra* note 693, at 7.
751. OSPARCOM Sect., *supra* note 711, at 3.
752. ODC 9th Rpt., *supra* note 694, at 72.
753. See, e.g., discussions on a special permit issued by the Netherlands. ODC 6th Rpt., *supra* note 714, at 11-12. In SACSA Britain has had to defend its dumping of fly ash in response to queries why it does not use available land-based alternatives. ODC 8th Rpt., *supra* note 693, at 5.
754. On the Enskeri incident, see, Barston and Birnie, *supra* note 12, at 119; Anon., "Deep Sea Dumping Furore," 6 MPB 68, 68 (1975); Hakapaa, *supra* note 43, at 127-28.
755. McManus, *supra* note 312, at 136.
756. Convention for the Prevention of Marine Pollution from Land-Based Sources, done 4 June 1974; reprinted in 13 ILM 352 (1974). For descriptions of the treaty, see, Hayward, "Environmental Protection: Regional Approaches," 8 Mar. Policy 106, 112-14 (1984); Bigham, "Land-Based Marine Pollution in the European Community" in Cusine and Grant, *supra* note 57, at 253, 263-69; Oslo and Paris Commissions, *supra* note 700, 24-39.
757. On the JMP, see, *supra* notes 692-93 and accompanying text.

758. For discussions of the issue, see, Hayward, *supra* note 756, at 112-13; PARCOM, "Third Annual Report on the Activities of the Paris Commission (June 1980 - June 1981)" at 15-16 (1983) [hereafter cited as PARCOM 3d Rpt.].
759. PARCOM, "Fourth Annual Report on the Activities of the Paris Commission (June 1981 - June 1982)" at 5 (1984) [hereafter cited as PARCOM 4th Rpt.]; PARCOM, "Fifth Annual Report on the Activities of the Paris Commission (June 1982 - June 1983)" at 24 (1984) [hereafter cited as PARCOM 5th Rpt.]; PARCOM "Sixth Annual Report on the Activities of the Paris Commission (June 1983 - June 1984)" at 5-6 (1984) [hereafter cited as PARCOM 6th Rpt.].
760. PARCOM 5th Rpt., *supra* note 759, at 25.
761. Hayward, *supra* note 740.
762. Oslo and Paris Commissions, *supra* note 700, at 25.
763. See generally, *id.* at 25-31.
764. PARCOM 6th Rpt., *supra* note 759, at 3-4.
765. Oslo and Paris Commissions, *supra* note 700, at 11-12.
766. *Id.* at 30.
767. PARCOM 5th Rpt., *supra* note 759, at 22.
768. PARCOM 6th Rpt., *supra* note 759, at 9.
769. The draft has since been adopted as a Council Directive. Dir. 83/513, 26 O.J. Eur. Comm. (No. L 291) 1 (1983).
770. Oslo and Paris Commissions, *supra* note 700, at 31.
771. PARCOM 3d Rpt., *supra* note 758, at 8.
772. PARCOM 6th Rpt., *supra* note 759, at 8.
773. *Id.*
774. PARCOM 5th Rpt., *supra* note 759, at 20.
775. *Id.*
776. *Id.*
777. PARCOM 6th Rpt., *supra* note 759, at 6. The equipment referred to in this decision are transformers, capacitors, heat-transmitting equipment, hydraulic mining equipment, certain chemical feedstocks, and certain tooling compounds.
778. *Id.*
779. OSPARCOM Sect., *supra* note 711, at 4-5.
780. PARCOM 3d Rpt., *supra* note 758, at 9.

781. PARCOM 6th Rpt., supra note 759, at 8.
782. OSPARCOM Sect., supra note 711, at 4; PARCOM 6th Rpt., supra note 759, at 10.
783. See, "Report of the Meeting of the Ad Hoc Working Group on Input Data" in PARCOM 6th Rpt., supra note 759, at 24, 25-31; "Assessment of the Results of the Joint Monitoring Programme for 1982" in id. at 71, 71-72; "Oslo and Paris Commissions - A Strategy for the Future" in id. at 102, 105-06; PARCOM 5th Rpt., supra note 759, at 26-27. The research, as well as reporting is, however, improving. Interview of Clair Nihoul, Deputy Secretary, OSPARCOM Secretariat, conducted 30 Nov. 1984.
784. PARCOM 6th Rpt., supra note 759, at 29.
785. Kildow, "Political and Economic Dimensions of Land-Based Sources of Marine Pollution" in Charney, supra note 527, at 68, 68.
786. McManus, "Legal Aspects of Land-Based Sources of Marine Pollution" in id. at 90, 92.
787. Kildow, supra note 785, at 73, 76.
788. Id. at 73; Bailey, "Consequences to Industry of the Recent Water Legislation," 19 Chem. & Industry 808, 810 (1976).
789. Remond-Gouilland, "Land-Based Pollution" in Johnston, supra note 1, at 230, 231, 237.
790. See, id. at 238; Kildow, supra note 785, at 71.
791. Remond-Gouilland, supra note 789, at 230.
792. See, McManus, supra note 786, at 93-94.
793. The method discussed here is adapted from McManus, id. at 91-92, 104-08; Yturriga, "Regional Conventions on the Protection of the Marine Environment" in 162 Recueil Des Cours 1979-I, at 319, 336 (Academie de Droit International 1980).
794. PARCOM 5th Rpt., supra note 759, at 29.
795. PARCOM 6th Rpt., supra note 759, at 103.
796. See, id. at 30.
797. Id. at 5.
798. The Protocol is discussed infra at pages 122-23.
799. Nihoul, supra note 783.
800. Birnie, "International Regional Cooperation" 159-60 (undated, unpublished mss.).
801. Lundqvist, "Saving the Baltic," 64 Scand. Rev. No. 4, at 46, 46 (1976). For an article on the state of the Baltic just prior to adoption of the Helsinki Convention, see, Reitzanz, "The Baltic -

802. Boczek, "International Protection of the Baltic Sea Environment against Pollution: A Study in Marine Regulation," 72 AJIL 782, 783 (1978). For a description of Baltic pollution, see, id. at 768-92; HELCOM, Baltic Sea Environment Proceedings No. 5A and 5B, "Assessment of the Effects of Pollution on the Natural Resources of the Baltic Sea, 1980" (1980).
803. Boczek, supra note 802, at 798-99; Lundqvist, supra note 801, at 48-49.
804. Boczek, supra note 802, at 799.
805. Convention on the Protection of the Marine Environment of the Baltic Sea Area, done 22 March 1974; reprinted in 13 ILM 541 (1974). For descriptions of the treaty, see, Boczek, supra note 802, at 801-14; Lundqvist, supra note 801, at 49-53; Johnson, "The Baltic Conventions," 25 Int'l. Comp. L. Qrtly. 1, 7-13 (1976); Hagerhall, "International Cooperation to Protect the Baltic," 9 Ambio 183 (1980); Jaenicke, "Cooperation in the Baltic Area" in Park, supra note 216, at 493.

Internal waters are excluded from the treaty area, an exclusion broader than it appears, for the Soviet Union claims as internal waters the Gulf of Riga and Poland has a similar claim to much of the Gulf of Gdansk. Boczek, supra note 802, at 802. Sweden, Denmark, and Finland have coastlines indented or accompanied by a fringe of islands. The use of straight baselines by these states to delimit their internal waters further reduces the area to which the treaty applies. See, id.
806. Johnson, supra note 805, at 12.
807. Rotbisch, "Commentary" in Park, supra note 216, at 523, 526.
808. HELCOM, Baltic Sea Environment Proceedings No. 8, "Activities of the Commission 1982," at 2 (1983) [hereafter cited as BSEP No. 8]. On the work of the STC, see, HELCOM, "Helsinki Convention 1974-1984 Goals and Achievements" (undated, unpaginated booklet).
809. BSEP No. 8, supra note 808, at 2; HELCOM, Baltic Sea Environment Proceedings No. 7, "Activities of the Commission 1981," at 10-12 (1982) [hereafter cited as BSEP No. 7].
810. BSEP No. 8, supra note 808, at 3, 12-13.
811. HELCOM, supra note 808.
812. Kwiatkowski, "Marine Pollution from Land-Based Sources: Current Problems and Prospects," 14 Ocean Dev. & Int'l. L. 315, 320-21 (1984).
813. Boczek, supra note 802, at 805.
814. Id. at 806.
815. Johnson, supra note 805, at 2.

816. For an overview of the Interim Commission's work, see, Interim Comm'n., Baltic Sea Environment Proceedings No. 1, "Interim Activities of the Baltic Sea States within the Framework of the Convention on the Protection of the Marine Environment of the Baltic Sea Area 1974-1978" (1979) [hereafter cited as BSEP No. 1].
817. HELCOM, Baltic Sea Environment Proceedings No. 3, "Activities of the Commission 1980," at 20 (1981) [hereafter cited as BSEP No. 3].
818. Id.
819. BSEP No. 1, *supra* note 816, at 13.
820. BSEP No. 7, *supra* note 809, at 48.
821. HELCOM, Baltic Sea Environment Proceedings No. 10, "Ten Years After the Signing of the Helsinki Convention: National Statements by the Contracting Parties on the Achievements in Implementing the Goals of the Convention on the Protection of the Marine Environment of the Baltic Sea Area" *passim* (1984) [hereafter cited as BSEP No. 10]; Denmark, "Helsinki Convention - Tenth Anniversary National Statement" in *id.* at 1, 4. [hereafter cited as Denmark's Stmt.].
822. HELCOM, Baltic Sea Environment Proceedings No. 13, "Activities of the Commission 1983," at 30, 32 (1984) [hereafter cited as BSEP No. 13].
823. In the late 1970s the Interim Commission said the following substances had been given high priority for future work: halogenated hydrocarbons, mercury, cadmium, oil and oil products, arsenic, lead, copper, zinc, chromium, and phosphorous. BSEP No. 1, *supra* note 816, at 6.
824. There is an oblique reference in the report of the Interim Commission about its agreement upon definitions of certain terms. What words it defined is not stated. HELCOM, Baltic Sea Environment Proceedings No. 2, "Report of the Interim Commission (IC) to the Baltic Marine Environment Protection Commission," 7 (1981) [hereafter cited as BSEP No. 2]. The definitions are probably interim for the report says they are difficult to establish and might be subject to changes later. *Id.* According to HELCOM's published proceedings, HELCOM has not confirmed these definitions.
825. *Id.* at 8-9; Hagerhall, *supra* note 805, at 184-85.
826. Some agreements on response regions have been reached, including agreements between Poland, East Germany, and the Soviet Union; Sweden, Denmark, and Poland; and the Soviet Union and Finland.
827. BSEP No. 2, *supra* note 824, at 11.
828. HELCOM, Baltic Sea Environment Proceedings No. 3, "Activities of the Commission 1980," at 5 (1981) [hereafter cited as BSEP No. 3].
829. HELCOM, Baltic Sea Environment Proceedings No. 13, "Guidelines for the Baltic Monitoring Programme for the Second Stage" (1984).
830. BSEP No. 3, *supra* note 828, at 5.

831. For example, the parties have studied methods to tag oil cargoes so that a spill or discharge can be traced to the polluting ship. See, BSEP No. 8, *supra* note 808, at 11; BSEP No. 2, *supra* note 824, at 15, 17. For a short description of the methods, see, Anon., "Oil Pollution: Tracing the Culprits," 4 MPB 52 (1973).
832. Boczek, *supra* note 802, at 813.
833. Letter from Mr. Voipio, Executive Secretary of HELCOM, in 13 MPB 177 (1982). In July of 1985 a decision will be made whether to continue BAREP. BSEP No. 8, *supra* note 808, at 6.
834. West Germany, "Implementation of the Helsinki Convention" in BSEP No. 10, *supra* note 821, at 65, 72; Denmark's Stmt., *supra* note 821, at 10; Poland, "Report on Implementation of Obligations Arising From the Provisions of the Convention on the Protection of the Marine Environment of the Baltic Sea Area in the Period 1974-1983," in BSEP No. 10, *supra* note 821, at 85, 107 [hereafter cited as Poland's Stmt.].
835. See the statements by Finland, West Germany, Poland, and Finland in BSEP No. 10, *supra* note 821.
836. See, Johnston and Enomoto, *supra* note 3, at 349; Anon., Europe No. 3814 (new ser.) 15 (21 March 1984).
837. Letter dated 2 Nov. 1984 from G. Kullenberg to and on file with the author [hereafter cited as Kullenberg].
838. *Id.*
839. Denmark's Stmt., *supra* note 821, at 4, 6, 10.
840. *Id.* at 8.
841. Int'l. Baltic Conf., "Statement adopted in Karlskrone, Sweden," reprinted in 13 *Envi. Policy & L.* 79 (1984). The conference was attended by all Baltic states and its final statement did point out positive trends regarding DDT, PCBs, and mercury levels in sea birds. *Id.*
842. Kullenberg, *supra* note 837. This is so not only because the treaty has been in force for a short time but also because the response time of the Baltic is many years to a few decades. *Id.*
843. Finland, "National Statement on the Achievements in Implementing the Goals of the Helsinki Convention," in BSEP No. 10, at 821, at 16, 32-33; Soviet Union, "National Report for the Review Meeting of the Commission for Protection of the Marine Environment of the Baltic Sea Area" in *id.* at 134, 138-39. However, studies indicate enforcement of Soviet environmental legislation is unsatisfactory. See, Boczek, *supra* note 802, at 794.
844. Boczek, *supra* note 802, at 812.
- 844a. See, Boxer, "The Mediterranean Sea: Preparing and Implementing a Regional Action Plan" in Kay and Jacobson, *supra* note 16, at 267, 277-88; Bliss, "Review of Mediterranean Action Plan," 3 *Ocean*

Management 315 (1978); Carroz, "Institutional Aspects of Resources Management and Protection in the Mediterranean," 3 Ocean Management 235 (1978); Hoyos, "The United Nations Environment Programme: The Mediterranean Conferences," 17 Harv. Int'l. L.J. 639 (1976); Sand, "Protection of the Marine Environment Against Pollution in the Mediterranean," 1 Envi. Policy & L. 154 (1975).

845. Mediterranean Action Plan, reprinted in 14 ILM 475 (1975).
846. See, U.N. Doc. UNEP/IG.14/9, "Report of the Intergovernmental Review Meeting of Mediterranean Coastal States and First Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Related Protocols," Annex VII at 1 (20 Ap. 1979) [hereafter cited as Rpt. of 1st Meeting].
847. See, U.N. Doc UNEP/IG.14/4, "Report of the Executive Director on the Implementation of the Mediterranean Action Plan for the Period 1975 until December 1978 and Recommendations for Activities During the 1979-1980 Biennium," 3 (30 Nov. 1978) [hereafter cited as 1975-1978 Rpt.].
848. U.N. Doc. UNEP/IG.49/5, "Report of the Extraordinary Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Related Protocols," 15 (30 Ap. 1984) [hereafter cited as Rpt. of 1984 Meeting].
849. UNEP, UNEP Regional Seas Reports and Studies No. 28, "Long-Term Programme for Pollution Monitoring and Research in the Mediterranean (MED POL) - Phase II," at 12 (1983) [hereafter cited as Rpt. No. 28].
850. U.N. Doc. UNEP/IG.43/6, "Report of the Third Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Related Protocols," 3, 9 (15 Mar. 1983) [hereafter cited as Rpt. of 3rd Meeting].
851. Rpt. of 1st Meeting, supra note 846, at Annex IV at 5-6; Rpt. No. 28, supra note 849, at 12.
852. 1975-1978 Rpt., supra note 847, at 11.
853. Convention for the Protection of the Mediterranean against Pollution, done 16 Feb. 1976; reprinted in, 15 ILM 290 (1976). For descriptions of the treaty, see, Kuwabara, supra note 285, at 23-29; Bigham, "Land-Based Marine Pollution in the European Community" in Cusine and Grant, supra note 57, at 253, 269-72; Juda, "The Regional Effort to Control Pollution in the Mediterranean Sea," 5 Ocean Management 125, 135-36 (1979).
854. Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft, done 16 Feb. 1976, reprinted in, 15 ILM 301 (1976); Protocol Concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency, done 16 Feb. 1976, reprinted in, 15 ILM 306 (1976).
855. Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, done 17 May 1981, reprinted in, 6 Envi. Policy & L. 144 (1980); Protocol Concerning Specially Protected Areas, doen 2 Ap. 1982, reprinted in, UNEP, "Protocol Con-

cerning Specially Protected Areas" (pamphlet 1984). For discussions of the former Protocol, see, Kuwabara, *supra* note 285, at 47-71; Goering, "Mediterranean Protocol on Land-Based Sources," 13 Cornell Int'l. L.J. 329 (1980); Juda, *supra* note 853, at 137-39; Dobbert, "Protocol to Control Pollution in the Mediterranean," 6 *Envi. Policy & L.* 110 (1980); Bigham, *supra* note 853, at 269-72.

- 856. UNEP, *supra* note 855, at 9.
- 857. There are several sub-regional agreements protective of the Mediterranean, these are between Yugoslavia and Italy, Greece and Italy, and France, Italy and Monaco. All are reprinted in, UNEP, UNEP Regional Seas Reports and Studies No. 52, "Arab Co-operation for the Protection and Development of the Marine Environment and Coastal Areas Resources of the Mediterranean" 19-27 (1984)
- 858. 1975-1978 Rpt., *supra* note 847, at Annex III at 9-10.
- 859. *Id.* at Annex III at 11; Rpt. of 1st Meeting, *supra* note 846, at 14.
- 860. Rpt. of 3rd Meeting, *supra* note 850, at 13.
- 861. Kuwabara, *supra* note 285, at 109-10.
- 862. Rpt. of 1984 Meeting, *supra* note 848, at 7, 29.
- 863. U.N. Doc. UNEP/IG.23/11, "Report of the Second Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Related Protocols and Intergovernmental Meeting of Mediterranean Coastal States on the Action Plan" 6 (16 Ap. 1981) [hereafter cited as Rpt. of 2d Meeting].
- 864. Rpt. of 1984 Meeting, *supra* note 848, at 24.
- 865. See, *id.*
- 866. See, *id.* at 21.
- 867. Saliba, "Protecting the Mediterranean - Coordinating Regional Action," 2 *Mar. Policy* ___, 177 (1978).
- 868. Hulm, *supra* note 90, at 6.
- 869. Rpt. of 2d Meeting, *supra* note 863, at 6; Rpt. of 3rd Meeting, *supra* note 850, at 14; Rpt. of 1984 Meeting, *supra* note 848, at 17.
- 870. Rpt. of 1984 Meeting, *supra* note 848, at 17.
- 871. *Id.* at 25-28.
- 872. Boxer, *supra* note 844a, at 293.
- 873. 1975-1978 Rpt., *supra* note 847, at Annex III at 3.
- 874. *Id.*
- 875. *Id.*
- 876. *Id.* See also, ROCC, "The Regional Oil Combating Centre for the

Mediterranean Sea" I.3-2 (typescript undated).

- 877. 1975-1978 Rpt., supra note 847, at Annex III at 3.
- 878. Id. See also, ROCC, supra note 876, at I.3-2-3; Boxer, supra note 844a, at 303.
- 879. 1975-1978 Rpt., supra note 847, at Annex III at 3. See also, ROCC, supra note 876, at I.3-3.
- 880. See, ROCC, supra note 876, at I.3-4.
- 881. Id. at I.3-3-4.
- 882. Rpt. of 1st Meeting, supra note 846, at 11.
- 883. 1975-1978 Rpt., supra note 847, at 4.
- 884. Id. at 5-6.
- 885. Id. at 4.
- 886. Id. at 6; Boxer, supra note 844a, at 294-95, 304.
- 887. 1975-1978 Rpt., supra note 847, at Annex I at 7-8.
- 888. See, id.; Rpt. of 1st Meeting, supra note 846, at Annex V at 2; Rpt. of 2d Meeting, supra note 863, at Annex IV at 2.
- 889. Saliba, supra note 91, at 112.
- 890. Saliba, Council of Europe Doc. CONG-TFP (79) 14, "Case-Study on Problems of Transfrontier Pollution in the Mediterranean and Current Action at Intergovernmental Level" 8 (3-5 Ap. 1979).
- 891. Id.
- 892. Rpt. of 1st Meeting, supra note 846, at 6-7; Rpt. of 2d Meeting, supra note 863, at Annex IV at 2.
- 893. Goering, supra note 855, at 338.
- 894. 1975-1978 Rpt., supra note 847, at 7. See, UNEP, UNEP Regional Seas Reports and Studies No. 28, "Long-Term Programme for Pollution Monitoring and Research in the Mediterranean (MED POL) - Phase II" (1983).
- 895. Rpt. of 2d Meeting, supra note 863, at 8; Annex V at 2.
- 896. Id. at Annex V at 2.
- 897. Id. at Annex V at 5-11.
- 898. Rpt. of 1984 Meeting, supra note 848, at 2.
- 899. Rpt. of 2d Meeting, supra note 863, at Annex V at 4.
- 900. U.N. Doc. UNEP/IG.36/8, "Report of the Extraordinary Meeting of the

Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Related Protocols" 2, Annex IV at 1.

901. Some of these are mentioned at, *id.* at Annex IV at 1; Rpt. of 1984 Meeting, *supra* note 848, at 2, 6, 16, 29; Rpt. of 3d Meeting, *supra* note 850, at 10.
902. Rpt. of 1984 Meeting, *supra* note 848, at Annex II at 3.
903. Juda, *supra* note 853, at 144.
904. See, Boxer, *supra* note 844a, at 304; 1975-1979 Rpt., *supra* note 847, at 8, Annex II at 2, 11; Rpt. of 1984 Meeting, *supra* note 848, at 6, 13; Rpt. of 1st Meeting, *supra* note 846, at Annex V at 5; Rpt. of 3d Meeting, *supra* note 850, at 5, 6; Rpt. of 2d Meeting, *supra* note 863, at 10.
905. Financial problems have considerably slowed the progress of all parts of MAP. See, Goering, *supra* note 855, at 339. These problems can be traced through the reports of the meetings. MAP's budget has been referred to by UNEP as "incredibly small." Rpt. of 3d Meeting, *supra* note 850, at Annex II at 2. One writer says the budget is feeble, even derisory..."¹¹ Antoine, "The Mediterranean - A Sea, and More," 23 *The Siren* 2, 34 (1983). The 1985 budget is 3.8 million dollars. Rpt. of 3d Meeting, *supra* note 850, at Annex IV.
906. Rpt. of 1984 Meeting, *supra* note 848, at 1, Annex II at 4.
907. See, Wetstone, "Acid Rain: The International Prespective," 11 *Envi. Policy & L.* 31, 31 (1983).
908. Wetstone, "Long-Range Transboundary Air Pollution - Executive Body, First Session," 11 *Envi. Policy & L.* 26, 26, 31 (1983).
909. Sion, "Regional Responses to Environmental Protection and the UN/ECE Convention on Long-Range Transboundary Air Pollution," 15 *Rev. Roumaine D'Etudes Int'l.* 387, 388 (1981).
910. Convention on Long-Range Transboundary Air Pollution, done 13 Nov. 1979, reprinted in 18 *ILM* 1442 (1979). For descriptions of the treaty, see, Rosencranz, "The ECE Convention of 1979 on Long-Range Transboundary Air Pollution," 75 *AJIL* 975 (1981); Sion, *supra* note 909. On the general subject of acid rain and international law, see, van Lier, *supra* note 316.
911. Letter dated 4 June 1985 from A. Tollan, Chief, ECE Air Pollution Unit of Environment and Human Settlements Division.
912. Rosencranz, *supra* note 910, at 980; Wetstone, *supra* note 908, at 26.
913. Hulm, "A Dark Decade Ahead for Acid Rain," 12 *Ambio* 131, 131 (1983).
914. See, U.N. Doc. ECE/EB.AIR/1, "Report of the First Session of the Executive body" 3 (28 June 1983).
915. Wetstone, *supra* note 908, at 28.
916. U.N. Doc. ECE/EB.AIR/7, "Report of the Thrid Session of the Exe-

cutive Body" Annex I (6 Aug. 1985) [hereafter cited as Rpt. of 3d Sess.].

917. Id. at 6.

918. Id. at Annex II.

919. Id. at 8.

920. Id. at 9.

921. See, U.N. Doc. E/ECE.062 "Economic Commission for Europe Annual Report (3 Ap. 1982 - 23 Ap. 1983)" 39-40 (1983) [hereafter cited as ECE 1982-83 Rpt.]; Wetstone, *supra* note 908, at 28.

922. U.N. Doc. ECE/EB.AIR/4, "Report of the Second Session of the Executive Body" Annex II (12 Oct. 1984).

923. Letter from Tollan, *supra* note 911.

924. Rpt. of 3d Sess., *supra* note 916, at 14.

925. Id. at Annex IV at 1.

926. Id. at Annex IV at 2.

927. Id.

928. U.N. Press Release ECE/ENV/7, at 2 (12 July 1985).

929. Rpt. of 3d sess., *supra* note 916, at Annex IV at 7.

930. Id. at Annex IV at 8-13.

931. See, House of Lords Subctte. on the European Community, "EEC Environment Policy: The Proposed Third Action Programme with Minutes of Evidence," Sess. 1981-1982 16th Rpt., at 29 (27 June 1982) (statements of A. Clarke and G. Howells) [hereafter cited as House of Lords].

932. The U.S., for example, was unwilling to join the weak consensus of the first Executive Body session merely recognising the need to decrease emissions.

933. U.K. policy on controlling acid rain was recently reviewed and criticized. House of Commons, I "Fourth Report of the Environment Ctte.: Acid Rain," Sess. 1983-84, at lxx-lxxv (1984).

934. See, Wetstone, *supra* note 907, at 32; House of Lords, *supra* note 931, at 29 (statement of A. Howells); Rosencranz, *supra* note 910, at 979-80. For example, many of these states have not attended a number of recent conference on the acid rain problem. See, e.g., Swedish Ministry of Agriculture, "The 1982 Conference on Acidification of the Environment June 21-30, 1982: Proceedings" 7 (1982).

935. Wetstone, *supra* note 907, at 32.

936. Wetstone, *supra* note 908, at 26.

937. Id.
938. U.N. Doc. E/ECE/1046/Add.1, II "European Economic Commission Annual Report (9 Ap. 1981 - 2 Ap. 1982)" 4 (1982) [hereafter cited as ECE 1981-82 Rpt.].
939. See, Rosencranz, *supra* note 910, at 981.
940. Jencks, "Coordination: A New Problem of International Organisation" in 77 Recueil Des Cours 1950-II, at 157, 171 (Academie de Droit Int'l. 1951).
941. Id.
942. Id.
943. Luard, *supra* note 179, at 265.
944. Schermers, *supra* note 178, at 674; Jencks, *supra* note 940, at 172-73; N. Brentwick and A. Martin, A Commentary on the Charter of the United Nations 119 (1950).
945. Brentwick and Martin, *supra* note 944, at 119.
946. Schermers, *supra* note 178, at 674.
947. Id.; Brentwick and Martin, *supra* note 944, at 119.
948. Luard, *supra* note 179, at 265; Brentwick and Martin, *supra* note 944, at 119; R. Russell, A History of the United Nations Charter: The Role of the United States 1940-1945, at 797 (1958).
949. Schermers, *supra* note 178, at 674.
950. Brentwick and Martin, *supra* note 944, at 119; Luard, *supra* note 179, at 265.
951. Sharp, *supra* note 182, at 104.
952. L. Goodrich and E. Hambro, The Charter of the United Nations: Commentary and Documents 350 (2d rev. ed. 1949).
953. Quoted in id., at 351.
954. For an account of the negotiations on the Charter's coordination provisions, see, Russell, *supra* note 948, at 794-807.
955. See, S. Goodspeed, The Nature and Function of International Organisation 409-10 (2d ed. 1967); D. Bowett, The Law of International Institutions (4th ed. 1982); Jencks, *supra* note 940, at 205-37; Schermers, *supra* note 178, at 675-76.
956. Goodrich and Hambro, *supra* note 952, at 352.
957. Jencks, *supra* note 940, at 157, 184-85.
958. Russell, *supra* note 948, at 805.
959. Id.

960. Jencks, *supra* note 940, at 178.
961. Convention of the Inter-Governmental Maritime Consultative Organisation, done 6 March 1948; reprinted in IMO, I IMO Basic Documents 7 (1983) [hereafter cited as IMO Convention]. Relevant articles in some other constituent documents are: Art. XVI, IAEA; Art. 25, WMO; Art. X, UNESCO; Art. 69, WHO; Art. XII, FAO; and Arts. A(5), (12), (13), IOC. The basic documents of all agencies and many other IGOs may be found at, A. Peaslee, I-V International Governmental Organisations: Constitutional Documents (3d rev. ed. 1974-79).
962. Representative of mandatory language is: "The Organisation shall establish effective relations and co-operate closely with such other inter-governmental organisations as may be desirable..." Art. 70, Constitution of the World Health Organisation, done 22 July 1946, 14 UNTS 185 [hereafter cited as WHO Constitution]. Relevant articles for other IGOs are: Art. 26, WMO; Art. XI, IOC; Arts. 56-58, IMO; Arts. XIII, VI(1)(2), III(6), FAO; Art. III(A)(6), IAEA. See also, Arts. 2(b)(h)(i)(p), 18(h), 33, 40, 50(d), 69-72 of the WHO Constitution. Also, the IMO Constitution provides that IMO's Maritime Safety Committee and Legal Committee "shall maintain such close relationship with other bodies as may further the purposes of [IMO]." Arts. 29(c), 34(c). IMO's MEPC shall "[p]romote co-operation with regional organisations concerned with the prevention and control of marine pollution from ships..." Art. 39(d).
963. Jencks, *supra* note 940, at 195.
964. See, *id.* at 237-43. "There have been almost innumerable examples of interagency agreements over the years..." Sharp, *supra* note 182, at 125.
965. Agreement between the Inter-Governmental Maritime Consultative Organisation and the Food and Agricultural Organisation of the United Nations, reprinted in IMO, II IMO Basic Documents 34 (1969). For agreements between IMO and the International Labour Organisation (ILO) and IMO and IAEA, see, *id.* at 18, 26. See also, agreements between ILO and WHO, 19 UNTS 270 (1948); ILO and FAO, 18 UNTS 336 (1948); UNESCO and WHO, 44 UNTS 324 (1949); FAO and UNESCO, 43 UNTS 316 (1949).
966. Jencks, *supra* note 940, at 238.
967. *Id.* at 175. In studying the law of IGO relations one might also note the wide variety of subsidiary instruments that amplify constituent instruments and include coordination duties. On the rules of procedure of the U.N. and specialized agencies, see, *id.* at 253-76. For example, the rules of procedure of IMO's MEPC contain numerous provisions relevant to coordination. IMO, *supra* note 961, at 87-96.
968. North Atlantic Treaty, done 4 Ap. 1949, 34 UNTS 243, as amended to 1951, reprinted in Peaslee (vol. I), *supra* note 961, at 1148 [hereafter cited as N. Atlantic Treaty].
969. Treaty between Finland, Denmark, Iceland, Norway, and Sweden concerning Co-operation, done 23 March 1962, 434 UNTS 182, 795 UNTS 370 [hereafter cited as 1962 Nordic Treaty].
970. Art. 23 (b), Statute of the Council of Europe, done 5 May 1949,

87 UNTS 103, as amended to 1971, reprinted in Peaslee (vol. I), supra note 961, at 341 [hereafter cited as Council of Europe Stat.]. The 1951 resolution is reprinted in Peaslee, supra note 961, at 350.

971. Arts. 5(c), 12, Convention on the Organisation for Economic Co-operation and Development, done 14 Dec. 1960, 888 UNTS 180 [hereafter cited as OECD Convention].
972. Arts. 229-231, 238, Treaty Establishing the European Economic Community, done 25 Mar. 1957, 298 UNTS 11, as amended to 1972, reprinted in Peaslee (vol I), supra note 961, at 457; Arts. 93-94, Treaty Constituting the European Coal and Steel Community, done 18 Ap. 1951, as amended to 1972, reprinted in id. at 542; Arts. 101, 102, 199-201, Treaty Establishing the European Atomic Energy Community, done 25 Mar. 1957, as amended to 1972, reprinted in id. at 591.
973. Art. 13, ODC, supra note 687.
974. Art. 17, MARPOL, supra note 539.
975. Art. 13(f), Helsinki Convention, supra note 805.
976. ODC 1st Rpt., supra note 689, at 9.
977. Jencks, supra note 940, at 187.
978. Supra notes 682-84 and accompanying text.
979. See, Johnson and Enomoto, supra note 285; Yturriga, "Regional Conventions on the Protection of the Marine Environment" in 162 Recueil Des Cours 1979-I, at 319 (Academie de Droit Int'l. 1980); K. Bekiashev and V. Serebriakov, International Marine Organisation (1982).
980. See, Hill, supra note 209, at 22.
981. The areas of the commissions are: Southwest Atlantic, East and Central Atlantic, Mediterranean Sea, Indian Ocean, West Central Atlantic, and the Indo-Pacific area. Miles, supra note 216, at 391.
982. Stein, "The Potential of Regional Organisations in Managing Man's Environment" in Hargrove, supra note 181, at 253, 259.
983. W. Sharp, The United Nations Economic and Social Council 146-47 (1969). In 1969 the extent of interdependent activities was outlined in a 274 page report. This showed in detail how "on literally hundreds of subjects in each of several broad fields, divisions and bureaux of from six to ten agencies and the [U.N.] Department of Economic and Social Affairs, plus a varying number of [U.N.] programmes and regional commissions, all have parts to play..." Hill, supra note 209, at 38-39.
984. See, COPA Rpt., supra note 22, at 4, 23; Hill, supra note 209, at 39.
985. See, Luard, supra note 179, at 50; Engfelt, "The United Nations and the Environment - Some Experiences," 27 Int'l. Org. 393, 395 (1973).

986. See also, IUCN-UNEP-WWF, *supra* note 271, *passim*.
987. Zalob, "The United Nations Environment Programme: Four Years After Stockholm," 2 *Envi. Policy & L.* 50, 60 (1976).
988. *Id.*
989. Keckes (Interview), 29 *The Siren* 2, 54 (1985).
990. Sharp, quoted in M. Elmandjra, The United Nations System: An Analysis 126 (1973).
991. Schermers, *supra* note 178, at 693; Hargrove, *supra* note 181, at 174; Elmandjra, *supra* note 990, at 128; Schweitzer, "Toxic Chemicals: Steps Toward Their Evaluation and Control" in Kay and Jacobson, *supra* note 16, at 22, 38; Jencks, "Co-ordination in International Organisation: An Introductory Survey," 28 *Brit. Y.B. Int'l. L.* 29, 89 (1951).
992. Sharp, *supra* note 983, at 158.
993. *Id.*
994. Five-Year Perspective, *supra* note 179, at 105.
995. ACC Doc., *supra* note 215, at Annex V, at 16.
996. U.N. Doc. UNEP/WG.63/4, "Meeting of Governmental Experts on Regional Marine Programmes: Report of the Meeting" 2 (18-21 1982).
997. McRae, *supra* note 217, at 94.
998. de Klemm, *supra* note 127, at 164.
999. Kingham and McRae, *supra* note 213, at 106.
1000. See, Sullivan (Panel Discussion), in Alexander, *supra* note 420, at 153. An internal study of the United States' participation in IGOs concluded coordination of United States policy was far from sufficient. Sen. Comm. on Govt. Operations, *supra* note 179, at xiii, 36-37. "The 33...U.S. agencies surveyed indicated that they participated in one degree or another in formulating or implementing U.S. policy toward one or more of the 65 organisations." *Id.* at 38. See also, "Symposium on the Role of the United States in Specialized International Organisations: Hearing before the Committee of Governmental Affairs United States Senate," 95th Cong., 1st Sess. (1977).
1001. Friedman, "US Law of the Sea Policy: A Bureaucratic Politics Analysis," 4 *Mar. Policy* 304, 320 (1978).
1002. *Id.* at 304.
1003. Hollick, "Seabeds Make Strange Politics," 9 *For. Policy* 148 (19__).
1004. Lowe, "Greenwich Forum - Inter-Disciplinary Analysis," 2 *Mar. Policy* 71, 72 (1978).

1005. Anon., "Action Plan for Conservation," 14 MPB 280, 280 (1983).
See also, Young, "UK Maritime Policy - Coordination at Government Level," 4 Mar. Policy 322 (1980).
1006. Anon., "Harmonization of Dutch North Sea Policy," N. Sea Monitor 85-1, at 3, 3 (1985).
1007. Andresen and Floistad, "Increased Need for Sea Use Planning? The Case of Norway" 11 (paper given at Greenwich Forum XI, 1-4 Ap. 1985, Leith Nautical College, Edinburgh).
1008. de Bievre, *supra* note 519, at 6.
1009. M'Gonigle and Zacher, *supra* note 56, at 346.
1010. See, Katin, "Environmental Law and Administration in Israel," 2 Envi. Policy & L. 94, 94 (1976); Royal Comm'n. on Environmental Policy, *supra* note 32, at 61-62; Ellis, "Interagency Communication," 15 MPB 313 (1984).
1011. McDorman, et al, *supra* note 360, at 73.
1012. *Id.* at 73-75.
1013. Sharp, *supra* note 983, at 158-59; Smithers, *supra* note 179, at 37; Whipple, "Land-Based Sources of Marine Pollution and National Controls" in Charney, *supra* note 527, at 29, 58.
1014. Boxer, *supra* note 844a, at 305.
1015. Hargrove, *supra* note 181, at 174.
1016. Smithers, *supra* note 179, at 31. See also, Sen. Comm. on Govt. Operations, *supra* note 179, at 40.
1017. Jackson, *supra* note 207, at v.
1018. Stein, *supra* note 982, at 275; Sharp, *supra* note 983, at 159; Miles (Panel Discussion), in Alexander, *supra* note 420, at 150.
1019. Stein, *supra* note 982, at 275.
1020. Howell, "An Approach to the Development of International Jurisdiction to Deal with Environmental Problems," 5 Asian Perspectives 218, 233 (1981).
1021. Luard says the theory that all that needs to be done to achieve more coordination among IGOs is more national coordination is not entirely sound. This idea "underestimates the influence of the Director-General and the Secretariat of the organisation concerned over their members." Luard, *supra* note 179, at 283. See also, Jencks, *supra* note 940, at 293; Hill, *supra* note 209, at 63.
Another aspect of the coordination problem is intra-organizational coordination, that is, ensuring an IGO's own programmes are integrated. This has been a serious problem in UNESCO. Comptroller General, "Report to the Committee on Foreign Affairs and Committee on Science and Technology House of Representatives of the U.S.: Improvements Needed in UNESCO's Management, Personnel, Financial, and Budgeting Practices" 49 (30 Nov. 1984). For

concern about lack of intra-organisational cooordination in the EEC, see, Koers (Panel Discussion), in Law of the Sea: Neglected Issues 496-97 (J. Gamble ed. 1979); Brown, "Sea-Use Planning in the North Sea: The Legal Framework" in id. at 436, 460-61. And in the ECE, see, ECE, Annual Report 72 (1983).

- 1022. Schwarzenberger and Brown, *supra* note 228, at 217.
- 1023. See, Skubiszewski, "International Legislation" in 5 Encyclopedia of Public International Law 96, 98 (Max Planck Institute of Public Comparative Law and Int'l. Law ed. 1983); McNair, "International Legislation," 19 Iowa L.R. 177, 178 (1934).
- 1024. Skubiszewski, "Enactment of Law by International Organisations," 41 Brit. Y.B. Int'l. L. 198, 201 (1965-1966).
- 1025. See, E. Yemin, Legislative Powers in the United Nations and Specialized Agencies 3 (1969).
- 1026. Id. at 4.
- 1027. Id. at 5-6.
- 1028. Skubiszewski, *supra* note 1023, at 98.
- 1029. See, id. at 100.
- 1030. See, Erler, "International Legislation," 2 Can. Y.B. Int'l. L. 153, 156 (1964). This issue is discussed at, Skubiszewski, *supra* note 1024, at 199-201; C. Alexandrowicz, The Law-Making Functions of the Specialised Agencies of the United Nations 3-4 (1973).
- 1031. See, Schwarzenberger and Brown, *supra* note 228, at 217-18; Alexandrowicz, *supra* note 1030, at 152-53.
- 1032. IMO Convention, *supra* note 961. Some of the many studies of IMO include, M'Gonigle and Zacher, *supra* note 56; Lampe, "The New International Maritime Consultative Organisation and its Place in the Development of International Maritime Law," 14 J. Mari. L. & Comm. 305 (1983); McLaren, "Third World Pressures in Specialised Agencies: The Reaction of IMCO," 6 Int'l. Relations 558 (1979); IMO, "The Activities of the Inter-Governmental Maritime Consultative Organisation in Relation to Shipping and Related Maritime Matters" in III Third United Nations Conference on the Law of the Sea: Official Records 42-56 (1975) [hereafter cited as IMO Activities]; Johnson, "IMCO: First Four Years (1959-1962)," 12 Int'l. & Comp. L. Qtly. 31 (1963); Padwa, "The Curriculum of IMCO," 14 Int'l. Org. 524 (1960).
- 1033. Bowett, *supra* note 955, at 126.
- 1034. For an early article on the Committee, see, Simmonds, "The Constitution of the Maritime Safety Committee of IMCO," 12 Int'l. & Comp. L. Qtly. 56 (1963).
- 1035. Mensah, "The IMCO Experience" in Hargrove, *supra* note 180, at 237, 239.
- 1036. IMO Ass. Res. A.297 (VIII) 23 Nov. 1973; reprinted in IV New

Dirs. 528.

1037. Sielen and McManus, *supra* note 16, at 151.
1038. See, Anon., "Preparation of Three Treaty Instruments Completed," IMO News No. 4, at 8, 8 (1983); Anon., "IMO to Hold Conference on Liability and Compensation," IMO News No. 1, at 1, 1 (1984); Anon., "Legal Conference Raises Oil Pollution Compensation Limits," IMO News No. 3, at 4, 6 (1984).
1039. McLaren, "Pollution Probe in the Global Village," 30 Int'l. J. 127, 130, 133 (1974-1975).
1040. M'Gonigle and Zacher, *supra* note 56, 107-12, 126-30.
1041. Birnie, *supra* note 800, at 72.
1042. Shinn, *supra* note 71, at 123. See also, Abrams, *supra* note 455, at 12; Miles, *supra* note 216, at 401.
1043. Greenberg, "IMCO: An Environmentalist's Perspective," 8 Case West. Res. J. Int'l. L. 131, 138 (1976).
1044. *Id.* at 141, 143.
1045. Pritchard, "Load on Top - From the Sublime to the Absurd," 9 J. Mari. L. & Comm. 185, 185-87 (1978).
1046. M'Gonigle and Zacher, *supra* note 56, at 59-64; Silverstein, "Technological Politics and Maritime Affairs - Comparative Participation in the Intergovernmental Maritime Consultative Organisation," 7 J. Mari. L. & Comm. 367 (1976).
1047. See, Anon., "Legal Conference Raises Oil Pollution Compensation Limits," IMO News No. 3, at 4, 4-6 (1984); Anon., "Arrangements Approved for 1986 Conference," IMO News No. 2, at 6, 6 (1984).
1048. Quoted in, Juda, "IMCO and the Regulation of Oil Pollution from Ships," 26 Int'l. & Comp. L. Q. 558, 575 (1977).
1049. For some of IMO's discussions of this issue, see, IMO Docs. LEG/XII/WP.4; LEG/XII/8, Annex II; LEG/XIV/2 to LEG/XIV/2/6. For discussions of the tacit amendment procedure and similar methods, see, Adede, "Amendment Procedures for Conventions with Technical Annexes: The IMCO Experience," 17 Va. J. Int'l. L. 201 (1976-1977); Contini and Sand, "Methods to Expedite Environmental Protection: International Ecostandards," 66 AJIL 37 (1972); Juda, *supra* note 1048, at 573-76.
1050. Timagenis, *supra* note 385, at 555.
1051. Art. 16(2), MARPOL 73/78, *supra* note 539.
1052. Juda, *supra* note 1052, at 576.
1053. For an overview of IMO's technical assistance work, see, IMO, "IMO's Technical Assistance Programme" (booklet 1984).
1054. IMO, "What it is, What it Does, How it Works" 10 (pamphlet undated).

1055. Id. Some of the codes are: Code of Safe Practice for Bulk Cargoes, International Code of Signals, Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, and Code of Safety for Nuclear Merchant Ships. Id. at 11. Some important recommendations have dealt with traffic separation schemes, crew training, and technical manuals such as the IMO Manual on Oil Pollution. Id.
1056. See, Simmonds, "International Maritime Organisation" in Max Planck Institute, *supra* note 1023, at 104, 107; Mensah, *supra* note 1035, at 241; Symon, *supra* note 608, at 7200; Gold and Johnston, "Ship-Generated Pollution: The Creation of Regulated Navigation" in Clingan, *supra* note 431, at 156, 162; IMO Activities, *supra* note 1032, at 46.
1057. Lampe, *supra* note 1032, at 318.
1058. Id.
1059. Id.
1060. See, *id.* at n. 34.
1061. Anon., "37 Countries Now Use IMDG Code," IMO News No. 2, at 3, 3 (1984).
1062. IMO's entrance into the environmental field came as a necessity, for having abdicated economic questions of shipping to UNCTAD it remained a technical body and "might not[have] been able to survive as a specialized agency given the narrow scope of its activities." M'Gonigle and Zacher, *supra* note 56, at 42. The Torrey Canyon incident and consequent increase in environmental activity by IMO was a "godsend" for IMO according to a past Secretary-General, Colin Goad. Id.
1063. See, "Address given by IMO's Secretary-General, C. Srivastava, at the International Conference on the Protection of the North Sea, Bremen, 31 Oct. - 1 Nov. 1984" (IMO typescript).
1064. IMO Res. A.500 (XII), in IMO Doc. A XII/Res. 500 (8 Jan. 1982).
1065. Lampe, *supra* note 1032, at 328.
1066. Gold and Johnston, *supra* note 1056, at 162.
1067. Kingham and MacRae, *supra* note 213, at 109 n. 20.
1068. See, IMO Doc. LDC VI/WP.3, "Relations with Other Organisations: Meeting of Representatives of the Consultative Meeting and of Regional Organisations on the Prevention of Marine Pollution" 2-3 (6 Oct. 1981).
1069. Lampe, *supra* note 1032, at 328.
1070. UNEP, The United Nations Environment Programme vi (1979).
1071. Strong, quoted in 13 IUCN Vull. 37 (1982).
1072. G.A. Res. 2997, 27 UN GAOR Supp. (No. 30), U.N. Doc. A/8730

- (1972) [hereafter cited as G.A. Res. 2997]. For discussions of UNEP, see, Smith, "The United Nations and the Environment: Sometimes a Great Notion?" 19 Tex. Int'l. L.J. 335 (1984); Head, "The Challenge of International Environmental Management: A Critique of the United Nations Environment Programme," 18 Va. J. Int'l. L. 269 (1978); Hardy, "The United Nations Environment Programme" in Teclaff and Utton, *supra* note 291, at 57.
1073. G.A. Res. 2997, *supra* note 1072.
1074. Hardy, *supra* note 1072, at 59.
1075. G.A. Res. 2994, 27 UN GAOR, Supp. (No. 30), U.N. Doc. A/8730 (1972).
1076. Hardy, *supra* note 1072, at 60.
1077. See, e.g., G.A. Res. 3129, 28 UN GAOR, Supp. (No. 30), U.N. Doc. A/9030 (1974).
1078. Stockholm Rpt., *supra* note 8.
1079. See, "UNEP's Legal Task: An Interview with Dr. Hassan Almed, Senior Legal Advisor to UNEP, July 1975," 1 Envi. Policy & L. 50 (1975) [hereafter cited as Almed Interview].
1080. Quoted in, Bacon, "The Role of the United Nations Environment Programme (UNEP) in the Development of International Environmental Law," 12 Can. Y.B. Int'l. L. 255, 260 (1974).
1081. *Id.*
1082. UNEP, UNEP Report No. 2, "Environmental Law: An In-Depth Review" 13 (1981).
1083. G.A. Res. 3436, 30 UN GAOR, Supp. (No. 34), U.N. Doc. A/10034 (1975). It may also be argued UNEP must try to develop law if it is to carry out its purposes. See, Kingham and MacRae, *supra* note 213, at 116. See also, Starke, *supra* note 245, at 572.
1084. The other five are: human settlements and human health, energy, natural disasters, environment and development, and terrestrial ecosystems.
1085. UNEP, *supra* note 1082, at 25-26.
1086. UNEP, *supra* note 171, at 39-44.
1087. Head, *supra* note 1072, at 272-73. On GEMS, see, U.N. Doc. A/CONF.62/C.3/L.23, "The Global Environmental Monitoring System of the United Nations Environment Programme" in IV Third United Nations Conference on the Law of the Sea: Official Records 207 (1975).
1089. Mattes, "The U.N. Environment Programme," 1 Envi. Policy & L. 53, 64 (1975).
1090. UNEP, *supra* note 1082, at 33.

1091. Id. at 37-43.
1092. On the RSP, see, Hulm, "A Strategy for the Seas: The Regional Seas Programme Past and Future" (UNEP booklet 1983); UNEP, UNEP Regional Seas Reports and Studies No. 1, "Achievements and Planned Development of UNEP's Regional Seas Programme and Comparable Programmes Sponsored by Other Bodies" (1982). Each issue of E. Borgese and N. Ginsburg's Ocean Yearbook series has an update on the RSP.
1093. Dec. 8 (II), 31 UN GAOR, Supp. (No. 25), U.N. Doc. A/9625, at 63.
1094. UNEP, supra note 1092, at i.
1095. Discussions of the process are at, Meith and Thacher, "Approaches to Regional Marine Problems: A Progress Report on UNEP's Regional Seas Programme" in Borgese and Ginsburg, supra note 219, at 153, 156-57; U.N. Doc. UNEP/IAMRS.3/4, "Report of the Third Inter-Agency Meeting on Regional Seas" Annex IV (18 Sept. 1981) [hereafter cited as Inter-Agency Meeting].
1096. U.N. Doc. UNEP/CEPAL/WG.48/4, "Co-operative Projects Proposed as Part of the Caribbean Environment Programme" 2 (30 Sept. 1980) [hereafter cited as Caribbean Rpt.].
1097. Inter-Agency Meeting, supra note 1095, at 4.
1098. Caribbean Rpt., supra note 1096, at 3, 7.
1099. Id. at 2.
1100. Hulm, supra note 90, at 7.
1101. Id.
1102. See, U.N. Doc. UNEP/WG.92/2, "Legal Elements Suggested for Inclusion in the Draft Guidelines/Principles for the Protection of the Marine Environment Against Pollution from Land-Based Sources" 5-6 (23 Aug. 1983).
1103. Meith and Thacher, supra note 1095, at 157.
1104. U.N. Doc. UNEP/CEPAL/IG.27/3, "Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme: Report of the Meeting" 31-32 (16 Ap. 1981).
1105. Hulm, supra note 90, at 8.
1106. Dupuy, "United Nations Environment Programme" in Max Planck Institute, supra note 1023, at 319, 322; Ahmed Interview, supra note 1079, at 51. See also, 30 UN GAOP, Supp. (No. 25), U.N. Doc. A/10025, at Annex I.
1107. Dupuy, supra note 1106, at 322.
1108. Id.
1109. Borgese, supra note 212, at 6.

1110. UNEP, Annual Report of the Executive Director 1983, at 85 (1984).
1111. UNEP, "UNEP Activities Related to the United Nations Conference on the Law of the Sea" 11 (June 1983).
1112. Id. at 10.
1113. See, UNEP, supra note 1110, at 85, 144-45; Bacon, supra note 1080, at 259; Dupuy, supra note 1106, at 322.
1114. See, Anon., "UNEP Ponders the Future," 28 The Siren 3, 3 (1985); Hulm, supra note 90, at 5.
1115. Anon., "UNEP/GC 11th Session," 10 Envi. Policy & L. 110, 117 (1983).
1116. See also, Articles 139, 142, 147, and 150.
1117. Resolution I of Annex I of the Final Act of the Third United Nations Conference on the Law of the Sea, reprinted in U.N., supra note 421, at 158, 175. For an overview of the institutional framework of seabed mining under the LOSC and the design and early work of PREPCOM, see, Brown, "Seabed Mining: From UNCLOS to Prepcom," 8 Mar. Policy 151 (1984); Simmonds, "The Status of the United Nations Convention on the Law of the Sea 1982," 34 Int'l. & Comp. L. Qtly. 359 (1985).
1118. Simmonds, supra note 1117, at 364.
1119. Brown, supra note 1117, at 161.
1120. "It would seem, therefore, that the 'pioneer activities' carried out by 'pioneer investors' prior to approval of their plans of work by the Authority will be subject in the beginning to such environmental rules as may be adopted by [PREPCOM]." Brown, "Pollution from Seabed Mining: Legal Safegaurds," 10 Envi. Policy & L. 122, 127 (1983).
1121. Simmonds, supra note 1117, at 362.
1122. Anon., "UN Preparatory Commission for International Sea-Bed Authority and International Tribunal for Law of Sea Concludes Third Session," 40 Int'l. Rev. 6, 7 (9 Sept. 1985).
1123. See, UNEP, supra note 1111, at 14.
1124. Churchill and Lowe, supra note 384, at 173; Brown, "The Impact of Unilateral Legislation on the Future of Legal Regime of Deep-Sea Mining," 20 Archiv des Volkrrechts 145, 146, 149 (1982).
For studies discussing the benefits and costs of mining outside the LOSC, see, Grolin, "The Future of the Law of the Sea: Consequences of a Non-Treaty or Non-Universal Treaty Situation," 13 O. Dev. & Int'l. L. 1, 17-25 (1983-1984); Treves, "The Adoption of the Law of the Sea Convention: Prospects for Seabed Mining," 7 Mar. Policy 3, 11-13 (1984); Brown, "Deep-Sea Mining: The Consequences of Failure to Agree at UNCLOS III," 7 Nat. Resources Forum 55 (1983); Ratiner, "Reciprocal State Arrangements: A Transition or an Alternative?" (paper given at

the 17th Annual Law of the Sea Institute Conf., Oslo, 14 July 1983).

1125. Brown, *supra* note 1124, at 147.
1126. Agreement Concerning Interim Arrangements Relating to Polymetallic Nodules of the Sea Bed, done 2 Sept. 1982; reprinted in 21 ILM 950 (1982).
1127. Pre-Enactment Explorers are defined as "an entity which was engaged, prior to the earliest date of enactment of domestic legislation by any Party, in deep sea bed polymetallic nodules exploration by substantial surveying activity with respect to the area applied for..." *Id.* at Art. 11(d).
1128. Provisional Understanding Regarding Deep Seabed Matters, done 3 Aug. 1984; reprinted in 23 ILM 1354 (1984).
On the question of the legal responsibility of states that have signed the LOSC but who are contemplating mining under the reciprocal states regime, see, McDade, "The Interim Obligation between Signature and Ratification of a Treaty: Issues Raised by the Recent Actions of Signatories to the Law of the Sea Convention with Respect to the Mining of the Deep Seabed," 32 *Nether. Int'l. L.R.* 5 (1985).
1129. Memorandum on the Implementation of the Provisional Understanding Regarding Deep Seabed Matters, done 3 Aug. 1984; reprinted in 23 ILM 1358 (1984).
1130. Art. 9, Law on the Exploration and Exploitation of Mineral Resources of the Deep Seabed; reprinted in 21 ILM 808 (1982).
1131. Sects. 5(3), 8, Act of Interim Regulation of Deep Seabed Mining; reprinted in 20 ILM 393 (1981), amended, 21 ILM 832 (1982).
1132. Sec. 5, Deep Sea Mining (Temporary Provisions) Act, 1981, Chap. 53; reprinted in 20 ILM 1217 (1981).
1133. Sects. 2(a)(14), 2(b)(14), 105(a)(4), 109(b)(d), 114, Deep Seabed Hard Mineral Resources Act of 1981; reprinted in 19 ILM 1003 (1980). The law is supplemented with regulations, reprinted in 20 ILM 1228 (1981), 21 ILM 867 (1982).
Italy has legislation pending. Brown, *supra* note 1120, at 129. Japan's legislation on deepsea mining has no specific environmental provisions. Law on Interim Measures for Deep Seabed Mining, reprinted in 22 ILM ____ (1983). The EEC may adopt a deepsea mining law, and, if so, it would contain environmental provisions. 26 *O.J. Eur. Comm.* (No. C 46) 15 (1983).
The Soviet Union enacted legislation similar to that in Western States. Art. 14, Edict on Provisional Measures to Regulate Soviet Enterprises for the Exploration and Exploitation of Mineral Resources, reprinted in 21 ILM 551 (1982).
1134. Mani, "Ocean Dumping of Radioactive Wastes: Law and Politics," 24 *Ind. J. Int'l. L.* 224, 232 (1984); Curtis, "Legality of Sea-Bed Disposal of High-Level Radioactive Waste under the London Dumping Convention" 21-22 (paper of the Center for Law and Social Policy 31 Aug. 1983).
1135. The various LOSC articles Mani and Curtis rely on are inapposite.

1136. Frank, "Environmental Consequences of Deep-Sea Mining" in Miles and Gamble, *supra* note 454, at 319, 323-24. Frank even wonders if the ISBA is empowered to regulate all the mining processes that may harm the environment. *Id.* at 324.
1137. *Id.* at 323.
1138. *Id.*
1139. *Id.*; Alexander, et al, "The Costs of Failure at the Third Law of the Sea Conference," 9 J. Mari. L. & Comm. 1,27 (1977-1978); Fleischer, "The International Concern for the Environment: The Concept of Common Heritage" in Bothe, *supra* note 268, at 321, 332; Abrams, *supra* note 455, at 21-22.
1140. Alexander, *supra* note 1139, at 27.
1141. Fleischer, *supra* note 1139, at 333.
1142. Art. II, International Atomic Energy Agency Statute, done 26 Oct. 1956, reprinted in Peaslee (vol. III-IV), *supra* note 961, at 231.
1143. See, e.g., IAEA Stat. Arts. III(A)(6), IX(I), XI(E)(3), XII(A).
1144. IAEA Stat. Arts. XI(F)(2)(3), XII(A)(1)(2)(4)(5).
1145. UNEP, *supra* note 1082, at 105.
1146. Szasz, "International Atomic Energy Agency" in Max Planck Institute, *supra* note 1023, at 52, 56.
1147. *Id.*
1148. On IAEA's activities, see, UNEP, *supra* note 1082, at 106-22.
1149. IAEA Safety Ser. No. 61.
1150. IAEA Safety Ser. No. 5, "Radioactive Waste Disposal into the Sea" (1961).
1151. IAEA Safety Ser. No. 27 (1968); IAEA Safety Ser. No. 36 (1971).
1152. IAEA, "Review of the Agency's Activities" 22-23, 72 (1984). For a review of the Programme, see, Thomas and Hirling, "International Waste Management - Conference Preview," 25 IAEA Bull. No. 1, at 27, 27-28 (1983).
1153. Thomas and Hirling, *supra* note 1152, at 27.
1154. *Id.* See also, UNEP, *supra* note 1082, at 117-18.
1155. IAEA, *supra* note 1152, at 72.
1156. IAEA, "The International Laboratory of Marine Radioactivity, Monaco" 2 (undated IAEA pamphlet).
1157. *Id.*

- 1158. Annex I(6) and Annex II(D), LDC, *supra* note 540.
- 1159. IAEA Doc. INFCIRC/205/Add.1 (10 Jan. 1975).
- 1160. 4th Meeting, *supra* note 618, at Annex 10. The revised definition and recommendations are at, IAEA Doc. INFCIRC/205/Add.1/Rev.1 (Aug. 1978), reprinted in 18 ILM 826 (1979).
- 1161. Thomas and Hirling, *supra* note 1152, at 28.
- 1162. IAEA, "IAEA Activities in Radioactive Waste Management: 8 (undated IAEA pamphlet).
- 1163. UNEP, *supra* note 1082, at 119.
- 1164. *Id.*
- 1165. McManus, *supra* note 312, at 128.
- 1166. *Id.* at 128-29.
- 1167. *Id.* at 129.
- 1168. *Id.*
- 1169. *Id.*
- 1170. *Id.* at 130.
- 1171. *Id.* at 129.
- 1172. 2d Meeting, *supra* note 617, at 10.
- 1173. 3d Meeting, *supra* note 639, at Annex 8 at 2-3.
- 1174. McManus, *supra* note 312, at 130.
- 1175. Charnock, "Marine Science: Organising the Study of the Ocean," 8 Mar. Policy 120, 130 (1984).
- 1176. Art. 2, IOC Statutes, "Records of the General Conference Sixteenth Session, Paris" 42 (1970).
- 1177. Sullivan, "Constituting the IOC as a More Autonomous or Independent Body: The Long-Term Implications," 6 Mar. Policy 290, 290 (1980).
- 1178. See, *id.*; Miles, *supra* note 216, at 438; IOC Doc. IOC/WG-FUROF-II/3, "Working Group on the Future Role and Functions of the Commission, Second Session Summary Report" (21 Dec. 1978).
- 1179. See, Roll, IOC Tech. Ser. No. 20, "A Focus for Ocean Research: Intergovernmental Oceanographic Commission History, Functions, Achievements" 10, 38-42 (1979); IOC, "Tricennial Report 1980-1982" 28 (1983); Miles, "IOC Data and Information Exchange: Implications of the Law of the Sea Convention," 7 Mar. Policy 75 (1983).
- 1180. Roll, *supra* note 1179, at 10.

1181. Id.
1182. Id. at 18-23. Not all IOC projects have succeeded, see, Tomczak, "The CINECA Experience," 3 Mar. Policy 59 (1979). The Co-operative Investigation in the Mediterranean "never really got off the ground." Boxer, *supra* note 166, at 279.
1183. See, Roll, *supra* note 1179, at 24-25.
1184. Id. at 24-25.
1185. Id. at 25.
1186. Id. at 24.
1187. Wooster, "International Cooperation in Marine Science" in Borgese and Ginsburg, *supra* note 219, at 123, 128.
1188. See, Miles, *supra* note 216, at 388. But IOC has recently sought to reverse this trend. Id. For a critical review of the expanded presence of developing countries in IOC, see, Freidheim, "International Organization and the Uses of the Oceans" in Multinational Cooperation: Economic, Social and Scientific development 223, 268, 273-77 (R. Jordan ed. 1972).
1189. Miles, *supra* note 216, at 388.

The United States' recent deliberations whether to leave UNESCO considered whether to withdraw from IOC as well. (Membership in IOC is not contingent on membership in UNESCO. IOC Stat. Art. 4(1)). A Congressional report says IOC's International Oceanic Data Exchange (IODE) is of "considerable benefit to the U.S....[and] provides the U.S. access to 60% of its marine data from foreign sources." House Cttee. on Foreign Affairs, "U.S. Withdrawal from UNESCO: Report of a Staff Study Mission Feb. 10-23, 1983," H.R. Doc. (Cttee. Print), 98th Cong., 2d Sess., 112 (1984). The report also refers to IOC as "highly successful." Id. at 116. The National Research Council of the United States says IODE "is the only mechanism...by which some oceanographic data are accessible to the many agencies of the United States that need this data..." National Research Council, "UNESCO Science Programs: Impacts of U.S. Withdrawal and Suggestion for Alternative Interim Arrangements A Preliminary Assessment" 51 (Nat'l. Academy Press typescript 1984). The Council, however, goes on to remark that alternative sources for this information might be found though this would be costly. Id. On the other hand, it has been said that if the United States withdraws from IOC the effect "on the U.S. scientific effort would be minimal..." Impact on U.S. Scientific Research or Proposal to withdraw from UNESCO: Hearings before the Subcttee. on Natural Resources, Agriculture Resources and Environment and Subcttee. on Science and Technology, 98th Cong., 2d Sess. 63 (1984) (statement of Wm. Nierenberg, Dir., Scripps Institution of Oceanography, U. of Cal.).
1190. IOC Doc. SC/MD/19, "UNESCO-IOC Summary Report of the Sixth Session (2-13 Sept. 1969)," at Part 1, sec. 3, at 12-13; Annex IV.
1191. IOC, IOC Tech. Ser. No. 14, "Comprehensive Plan for the Global Investigation of Pollution in the Marine Environment and Baseline Study Guidelines" 7 (1976) [hereafter cited as GIPME Plan].

1192. Miles, *supra* note 216, at 398.
1193. GIPME Plan, *supra* note 1191, at 7.
1194. IOC Doc. IOC/EC-XVII/3, "Report of Seventeenth Session of the Executive Council, Paris, 31 Jan. - 9 Feb. 1984" 25
1195. Roll, *supra* note 1179, at 26.
1196. Miles, *supra* note 216, at 398.
1197. Art. 1, Food and Agricultural Organisation of the United Nations Constitution, done 16 Oct. 1975, reprinted in, FAO, Basic Texts of the Food and Agricultural Organisation of the United Nations 3 (1978).
1198. Birnie, *supra* note 800, at 86.
1199. Hjul, "World Fish Harvest: Problems and Implications," 1 Mar. Policy 263, 263 (1977).
1200. See, R. Phillips, FAO: Its Origins, Formation and Evolution 1945-1981, at 137 (1981).
1201. See, UNEP, *supra* note 1082, at 65.
1202. Loftas, "FAO's EEZ Programme: Assisting a New Era In Fisheries," 5 Mar. Policy 229, 229-30 (1981).
1203. The FAO Conference says the agency "has long been a leader in this field..." FAO Doc. C 79/REP, "Report of the Conference of FAO: Twentieth Session Rome, 10-28 Nov. 1979," at 30 (1979) [hereafter cited as FAO 20th Rpt.].
1204. Birnie, *supra* note 800, at 88-89.
1205. Shinn, *supra* note 71, at 112.
1206. See, Res. 4/79, "Programme of Assistance in the Development and Management of Fisheries in the Exclusive Economic Zone" in FAO 20th Rpt., *supra* note 1203, at 30. On the EEZ Programme, see, FAO, FAO Fisheries Rpt. No. 256, "Report of the Fourth Session of the Committee of Fisheries Rome 26-30 May 1981," at 1-8 (1981); Loftas, *supra* note 1202; de Klemm, *supra* note 127, at 154-55.
1207. See, de klemm, *supra* note 127, at 155.
1208. FAO, GFCM Studies and Reviews No. 51, "The State of Marine Pollution in the Mediterranean and Legislative Controls" (1972).
1209. Saliba, *supra* note 867, at 178.
1210. UNEP, *supra* note 1082, at 75.
1211. Dobbert, "Food and Agricultural Organisation of the United nations" in Max Planck Institute, *supra* note 1023, at 15, 18. On the other hand, FAO is active in developing national environ-

- mental law. See, UNEP, *supra* note 1082, at 69-72.
1212. Carroz, *supra* note 844, at 243-45.
1213. For example, FAO has prepared background legal studies and the draft protocol on the establishment of Protected Areas in the Mediterranean Sea and has done legal work related to the Action Plan of the Caribbean region. UNEP, *supra* note 1082, at 73.
1214. Dobbert, *supra* note 1211, at 19.
1215. Art. 1, WHO Constitution, *supra* note 962.
1216. See, Jenkins, "Coastal Pollution of the Mediterranean," 11 MPB 6, 7 (1980); Saliba, *supra* note 91, at 109.
1217. For a description of these methods, see, Yemin, *supra* note 1025, at 183-87.
1218. *Id.* at 202; Alexandrowicz, *supra* note 1030, at 51.
1219. Quoted in UNEP, *supra* note 1082, at 77.
1220. WHO, Introducing WHO 77 (1976).
1221. WHO/IPCS, "The International Programme on Chemical Safety (IPCS)" 6 (undated booklet).
1222. UNEP, *supra* note 1082, at 79-81.
1223. WHO, The Work of WHO 1982-1983: Biennial Report of the Director-General to the World Health Assembly and to the United Nations 134 (1984).
1224. WHO, The Work of WHO 1978-1979: Biennial Report of the Director-General to the World Health Assembly and to the United Nations 153 (1980); WHO Regional Office for Europe, The Work of WHO in the European Region 1982: Annual Report to the Regional Director 58-59 (1983) [hereafter cited as WHO/EURO 1982 Rpt.].
1225. WHO, The Work of WHO 1980-1981: Biennial Report of the Director-General to the World Health Organisation Assembly and to the United Nations 180 (1982).
1226. UNEP, *supra* note 1082, at 79.
1227. WHO Regional Office for Europe, The Work of WHO in the European Region 1981: Annual Report of the Regional Director 66 (1982).
1228. *Id.* at 65.
1229. *Id.* at 65-66; WHO/EURO 1982 Rpt., *supra* note 1224, at 61.
1230. See, WHO Regional Office for Europe, *supra* note 1227, at 61.
1231. *Id.*
1232. *Id.*; UNEP, *supra* note 1082, at 80.

1233. WHO/EURO 1982 Rpt., supra note 1224, at 61.
1234. Such as problems of hazardous waste management, the evaluation of water pollution control, and professional profiles and training requirements for operators of sewage facilities. Id. at 57-60; WHO Regional Office for Europe, supra note 1227, at 63.
1235. Vignes and Schlenka, "World Health Organisation" in Max Planck Institute, supra note 1023, at 406, 408. See also, UNEP, supra note 1082, at 75.
1236. Vignes and Schlenka, supra note 1235, at 408; UNEP, supra note 1082, at 75.
1237. See, UNEP, supra note 1082, at 75.
1238. Vignes and Schlenka, supra note 1235, at 408. See also, Alexandrowicz, supra note 1030, at 55.
1239. Davies, "The Role of the WMO in Environmental Issues," 26 Int'l. Org. 327, 327 (1972). For an overview of the relationship between meteorology and the environment, see, WMO, "Meteorology and the Human Environment" (WMO booklet 1971).
1240. Art. 2(a), Constitution of the World Meteorological Organisation, done 11 Oct. 1947, 77 UNTS 143.
1241. See, WMO, "The Next Decade: Meteorology and Operational Hydrology in the Service of Mankind - A Policy of Advancement" 6 (WMO booklet 1984).
1242. See, Alexandrowicz, supra note 1030, at 60. WMO also publishes Guides "'which describe in more detail the practices, procedures, and specifications which Members are invited to follow...in establishing and conducting their arrangements for compliance with the Technical Regulations...'" Yemin, supra note 1025, at 165.
1243. Reprinted in Yemin, supra note 1025, at 177. The resolution is discussed at, id. at 177-78; Alexandrowicz, supra note 1030, at 60-61.
1244. Yemin, supra note 1025, at 179. See also, Alexandrowicz, supra note 1030, at 61.
1245. WMO, supra note 1241, at 20.
1246. Id. at 12.
1247. Id. Some of WMO's study and monitoring of air pollution goes on in its Research and Development Programme and World Weather Watch Programme. Id. at 23, 31.
1248. WMO, "Explanatory Note" in GESAMP, Reports and Studies No. 13, "Interchange of Pollutants between the Atmosphere and the Oceans" (1980).
1249. WMO, Annual Report of the World Meteorological Organisation 1983, at 1, 33 (1984).

1250. Roll, *supra* note 1179, at 36-40, 42-44.
1251. Shinn, *supra* note 71, at 114.
1252. *Id.*; Roll, *supra* note 1179, at 43.
1253. Mensah, "Environmental Protection: International Approaches," 8 Mar. Policy 95, 101-02 (1984).
1254. Stockholm Rpt., *supra* note 8.
1255. Alexander, "How Will the New Law of the Sea Affect International Ocean Organisations: The Case for Living Marine Resources" in Park, *supra* note 216, at 446, 446; Rosenne, "The Reconciliation of the Old and the New Law of the Sea" in *id.*, at 63, 109; Mensah, *supra* note 1253, at 97; Birnie, "Contemporary Maritime Legal Problems" in Barston and Birnie, *supra* note 12, at 169, 170; Boyle, *supra* note 368, at 371; Borgese, *supra* note 212, at 7.
1256. See, Birnie, *supra* note 1255, at 170; Contini and Sand, "Methods to Expedite Environmental Protection: International Ecostandards," 66 AJIL 41 (1972).
1257. Kingham and McRae, *supra* note 213.
1258. *Id.* at 110-11.
1259. *Id.* at 127.
1260. McRae, *supra* note 217, at 85.
1261. Kingham and McRae, *supra* note 213, at 117 n. 41, 127.
1262. *Id.* at 116, 127; Miles, *supra* note 216, at 409.
1263. The idea for these tables is taken from the tables presented in Kingham and McRae's article, *supra* note 213.
- 1263a. The EEC is part of the European Communities (EC) that also includes the European Coal and Steel Community and the European Atomic Energy Community. The discussion here, however, is confined to the EEC because the bulk of the EC's environmental work takes place in the EEC.
- 1263b. Art. 2, Treaty establishing the European Economic Community, done 25 March 1957, 298 UNTS 11.
- 1263c. See, e.g., House of Lords Select Cttee. on the European Communities, 22d Rpt., "Report on the Approximation of Laws under Article 100 of the EEC Treaty" 131 H.L. (5th Ser.) Sess. 1977-1978.
1264. Oppermann, "European Economic Community" in 6 Encyclopedia of Public International Law 150, 159 (Max Planck Institute of Comparative Public Law and International Law ed. 1983).
1265. Quoted in 16 O.J. Eur. Comm. (No. C 16) 1 (1973).
1266. Article 100 states: "The Council shall, acting unanimously on a proposal from the Commission, issue directives for the approx-

imation of such provisions laid down by law, regulation or administrative act in Member States as directly affect the establishment or functioning of the common market...."

- 1267. The Preamble says that an essential objective of the EEC is the improvement of living and working conditions. Article 84(2) says the Council may, acting unanimously, decide provisions for sea and air transport. On the EEC's environmental competence over ships, see, Cremona, "The Role of the EEC in the Control of Oil Pollution," 17 Common Mkt. L.R. 171, 172-75 (1980). The EEC Treaty applies to the EEZ of member states. Officer Van Jastitie v. Cornelius Kramer (Case 3/76), The Same v. Hendrik Van Den Berg (Case 4/76), and The Same v. Kramer En Bias and Co. (Case 6/76) 2 Comm. Market L.R. 440, 469 (1976).
- 1268. Jacobs, "European Communities" in Max Planck Institute, *supra* note 1264, at 124, 128; Skubiszewski, *supra* note 1023, at 102.
- 1269. Skubiszewski, *supra* note 1024, at 237-38.
- 1270. Jacobs, *supra* note 1268, at 129.
- 1271. See also, Arts. 170 and 173. In 1980 the Court ruled Italy failed to implement two Council environmental Directives. Comm'n. of the European Communities v. Italian Republic, 1980 E. Comm. Ct. J. 1099; Comm'n. of the European Communities v. Italian Republic, 1980 E. Comm. Ct. J. 1115. Environmentalists, however, complain the Commission is slow in taking recalcitrant states to the Court. David, "Editorial," 19 Eco-forum 2, 2 (1983); Anon., "The Community's Environment Policy or What Good is a Quiet Success Story?" 19 Eco-forum 2, 3 (1983). The Commission says that by 1 March 1984, 58 environmental Directives were to become part of national law and after checking implementation it served 119 notices, published 55 opinions, and brought 22 cases to the Court of Justice. Comm'n. of the European Communities, Ten Years of Community Environmental Policy 63-64 (1984) [hereafter cited as E.C. Comm'n.]. The number of infringement proceedings have been increasing since 1978, steadily and sharply. EEC Doc. COM (84) 181 (FINAL), EEC Comm'n., "First Annual Report to the European Parliament on Commission Monitoring of the Application of Community Law - 1984," at 6. Overall, implementation of Directives appears reasonably good. Of 700 Directives due for implementation in 1983 and early 1984, 190 caused problems but the rest none. *Id.* at 2.
- 1272. Oppermann, *supra* note 1264, at 154.
- 1273. E.C. Comm'n., *supra* note 1271, at 15.
- 1274. *Id.*
- 1275. See, Collings, "Viewpoint," 14 Eco-forum 5, 5 (1982).
- 1276. *Id.* at 6.
- 1277. The Commission's Environment Directorate "makes due with 0.5-0.6% of the Community's total budget." Anon., *supra* note 1271, at 4. The European Parliament consistently presses for more resources for the Environment Directorate. See, e.g., 1983-1984

Eur. Parl. Doc. (No. 1-101/83) (1983).

- 1278. Nagelmachers, "Aftermath of the Amoco Cadiz: Why Must the European Community Act?" 4 Mar. Policy 3, 11 (1980); Anon., *supra* note 1271, at 3.
- 1279. E.C. Comm'n., *supra* note 1271, at 15.
- 1280. "Extract from Presidency's Conclusions, European Council Stuttgart, 17-19 June 1983," reprinted in *id.* at Annex V.
- 1281. David, *supra* note 1271, at 2.
- 1282. Vonkeman, quoted in House of Lords Select Cttee. on the European Communities, 5th Rpt., "EEC Environmental Policy: Progress Made in Connection with the Environment Action Programme and Assessment of the Work Done to Implement it" 10 H.L. Sess. 1978-1980.
- 1283. 16 O.J. Eur. Comm. (No. C 16) 1 (1973).
- 1284. 20 O.J. Eur. Comm. (No. C 139) 1 (1977). For comments on some of the marine pollution aspects of the this action programme, see, Jenkins, "EEC Moves Against Marine Pollution," 9 MPB 172 (1978).
- 1285. 26 O.J. Eur. Comm. (No. C 46) 1 (1983).
- 1286. E.C. Comm'n., *supra* note 1271, at 77.
- 1287. The programme has been criticized as too general. European Environmental Bureau, "Comments of the European Environmental Bureau on the Draft Action Programme of the European Communities on the Environment 1982-1986 - COM (81) 626 (FINAL)" 1-2 (typescript 10 Feb. 1982); Institute for European Environmental Policy, quoted in House of Lords Select Cttee. on the European Communities, 16th Rpt., "EEC Environmental Policy: The Proposed Third Action Programme" 75 H.L. Sess. 1981-1982.
- 1288. 26 O.J. Eur. Comm. (No. C 46) 4 (1981).
- 1289. Narjes, "Preface" in E.C. Comm'n., *supra* note 1271, at 1, 8.
- 1290. On air pollution Directives, see, Anon., "The European Community and Acid Rain: What's Happening?" Toxic Subs. Control Newsletter 13, 14-15 (Spring 1983). On some of the EEC's actions on waste management, see, Mastellone, "The External Relations of the E.E.C. in the Field of Environmental Protection," 30 Int'l. Comp. L. Qtly. 104, 109 (1981).
- 1291. 26 O.J. Eur. Comm. (No. C 46) 1, 2 (1983).
- 1292. *Id.* at 5, 10.
- 1293. E.C. Comm'n., *supra* note 1271, at 12; Annex I. See also, Mastellone, *supra* note 1290, at 109-10; Anon., "Activities of the European Parliament in the Field of the Environment January 1981 - May 1982," 14 Eco-forum 7 (1982).
- 1294. E.C. Comm'n., *supra* note 1271, at 19-23.

- 1295. O.J. Eur. Comm. (No. L 129) 23 (1976). The Directive is discussed at, E.C. Comm'n., supra note 1271, at 19-21.
- 1296. E.C. Comm'n., supra note 1271, at 20-21.
- 1297. Id. at 21-22.
- 1298. Id. at 22.
- 1299. Id. at 22-23.
- 1300. Id. at 60.
- 1301. Id. at 23-24; Annex VII.
- 1302. Id. at Annex VII.
- 1303. 26 O.J. Eur. Comm. (No. C 46) 3, 15 (1983).
- 1304. Id. at 16.
- 1305. Brown. "The Conventional Law of the Environment" in Teclaff and Utton, supra note 291, at 25, 28-29.
- 1306. Art. 1(a), Statute of the Council of Europe, done 5 May 1949, 87 UNTS 103.
- 1307. de Areilza, "What Future for Europe?" Forum Council of Europe No. 1, at 1, 1 (1983).
- 1308. Resolution adopted by the Committee of Ministers at its Eighth Session - May 1951, reprinted in Peaslee vol. I), supra note 961, at 350, 350-51.
- 1309. Birnie, supra note 800, at 4.
- 1310. Robertson, "Council of Europe" in Max Planck Institute, supra note 1264, at 86, 88. "By 1981 the Assembly had adopted more than one hundred opinions, nearly a thousand recommendations and more than seven hundred resolutions." Id.
- 1311. Birnie, supra note 800, at 9.
- 1312. Pertini, "Strasbourg Notebook," 7/8 Europe 84, at 17, 17 (1984).
- 1313. Quoted in Birnie, supra note 800, at 5.
- 1314. Vella, supra note 51, at 146.
- 1315. Id. at 79.
- 1316. Id. at 121.
- 1317. See, Anon., "The European Committee for the Conservation of Nature and Natural Resources," Newsletter - Nature No. 82-7, at 2, 2 (1982). One of the main programmes of this Committee, a study of the protection of coastal areas and the legislative steps taken or to be taken to achieve protection, took place in 1974. Karasek, "Fragile Ecosystems," 46 Naturopa 4, 5 (1984). See also, Peaslee (vol. III-IV), supra note 961, at 63. Some of

the Standing Conference of Local and Regional Authorities' relevant initiatives include a 1975 Conference of Peripheral Maritime Regions and the 1981 European Islands Regions Conference that discussed environmental issues.

1318. Council of Europe, "Chart Showing Signatures and Ratifications of Council of Europe Conventions and Agreements" (booklet March 1981).
1319. For example, the European Convention for the Protection of International Watercourses against Pollution, European Agreement on the Restriction of the Use of Certain Detergents in Washing and Cleaning Products, and Convention on the Conservation of European Wildlife and Natural Habitats.
1320. Brown, *supra* note 1305, at 27.
1321. See, for example, the Aachen Congress on Prevention of Trans-frontier Pollution and Co-operation Between Local and Regional Authorities, held 3-5 Apr. 1979; Vella, *supra* note 51; Council of Europe Doc. CPL/Env./Poll (15) 4, Ridder, "Draft Report on Maritime Pollution in the Atlantic Ocean, English Channel and North Sea" (16 Feb. 1981).
1322. Some indication the Council's environmental efforts are directed at problems other than marine pollution can be attained from a review of its yearly Catalogue of Publications, which mentions little or nothing on marine pollution.
1323. Anon., "The Scientific Foundation," 42 *Naturoipa* 2 (1982); Adinolfi, "Editorial," 42 *Naturoipa* 3 (1982).
1324. Tendron, "20 Years of Nature Protection," 41 *Naturoipa* 7, 13-14 (1982).
1325. Anon., "European Ministerial Conference on the Environment," Newsletter - Nature No. 82-7, at 3, 3 (1982).
1326. Anon., "Environment: Council of Europe Organises Fourth Ministerial Conference on the Environment," Europe No. 3828 (new ser.) 14, 14 (9-10 Apr. 1984).
1327. Anon., "Environment: Recommendations of the Fourth Council of Europe Conference on Conservation of Coastal Areas, River Banks and Lake Shores," Europe No. 3849 (new ser.) 16, 16 (9 May 1984).
1328. The campaign appears largely devoted to information and the promotion of public awareness. A number of varied activities are being taken on the national level. See the following issues of Newsletter- Nature, numbers 84-4, 84-1, 83-3.
1329. See, Ahrens, "A Third Way," Forum Council of Europe No. 2, at 1, 1 (1984).
1330. Art. 1, OECD Convention, *supra* note 971.
1331. OECD, OECD and the Environment 7 (1979).
1332. Hahn, "Organisation for Economic Cooperation and Development" in

Max Planck Institute, *supra* note 1023, at 214, 216.

- 1333. Art. 19(b), OECD Rules of Procedure, reprinted in *id.* at 220.
- 1334. *Id.*
- 1335. *Id.* at 221.
- 1336. *Id.*
- 1337. *Id.* See also, OECD, *supra* note 1331, at 9.
- 1338. See, Hahn, *supra* note 1332, at 217.
- 1339. *Id.* at 221.
- 1340. OECD, *supra* note 1331, at 8.
- 1341. *Id.* at 8-9.
- 1342. *Id.*
- 1343. OECD Doc. C(73)1(FINAL), "Decision on Protection of the Environment by Control of Polychlorinated Biphenyls" (13 Feb. 1973).
- 1344. OECD, The Polluter Pays Principle: Definition, Analysis and Implementation (1975).
- 1345. OECD, *supra* note 1331, at 11-12.
- 1346. OECD, Activities of OECD in 1983: Report of the Secretary-General 37-38 (1984).
- 1347. OECD, Activities of OECD in 1982: Report of the Secretary-General 45 (1983).
- 1348. OECD, Activities of OECD in 1981: Report of the Secretary-General 37 (1982).
- 1349. See, Stadie, "NEA Activities in Safety and Regulation," 25 IAEA Bull. No. 3, at 32 (1983); Shapar, "The OECD Nuclear Energy Agency: New Directions," 25 IAEA Bull. No. 1, at 23 (1983).
- 1350. OECD Doc. C(77)115(FINAL), "Recommendation on Multilateral Consultation and Surveillance Mechanism for Sea Dumping of Radioactive Waste" (22 July 1977).
- 1351. OECD, *supra* note 1347, at 42; OECD, *supra* note 1348, at 38.
- 1352. OECD, NEA Activities in 1983: Twelfth Activity Report of the OECD Nuclear Energy Agency 29, 38 (1984).
- 1353. Birnie, *supra* note 800, at 31.
- 1354. de Klemm, *supra* note 127, at 161.
- 1355. OECD, Environmental Policies in New Zealand (1981); OECD, Envi-

ronmental Policies in Greece (1983); OECD, Environmental Policies in Japan (1977); OECD, Environmental Policies in Sweden (1977).

- 1356. OECD, *supra* note 1331, at 8.
- 1357. OECD Doc. C(74)224, "Recommendation on Principles Concerning Transfrontier Pollution" (14 Nov. 1974); OECD Doc. C(76)55(FINAL), "Recommendation on Equal Right of Access in Relation to Transfrontier Pollution" (11 May 1976); OECD Doc. C(77)28(FINAL), "Recommendation on Implementation of a Regime of Equal Access and Non-Discrimination in Relation to Transfrontier Pollution" (17 May 1977); OECD Doc. C(78)77(FINAL), "Recommendation on Strengthening International Cooperation on Environmental Protection in Frontier Regions" (21 Sept. 1978); Report on Responsibilities and Liability of States in Relation to Transfrontier Pollution, reprinted in 13 *Envi. Policy and L.* 122 (1984).
- 1358. ECE was created by ECOSOC in 1947, see, U.N. Doc. E/402 (reissued as Doc. E/437) Reso. 36(IV) of 28 Mar. 1947, in "Resolutions adopted by the Economic and Social Council during its Fourth Session from 28 Feb. to 29 March 1947."
- 1359. Final Act of the Conference on Security and Co-operation in Europe, reprinted in 14 *ILM* 1291 (1975) [hereafter cited as CSCE Act].
- 1360. ECE, Three Decades of the United Nations Economic Commission for Europe 9 (1978). ECE members recently agreed environmental concerns should be "a high priority item." ECE 1982-83 Rpt., *supra* note 921, at 39.
- 1361. CSCE Act, *supra* note 1359, at 1324.
- 1362. *Id.* at 1308.
- 1363. ECE, *supra* note 1360, at 16-17.
- 1364. UNEP, *supra* note 1082, at 46.
- 1365. Szasz and Willis, "Regional Commissions of the United Nations" in Max Planck Institute, *supra* note 1204, at 296, 300. For a list of ECE instruments adopted from 1947 to 1978, see, ECE, *supra* note 1360, at 242-59.
- 1366. ECE, *supra* note 1360, at 4.
- 1367. *Id.* at 65.
- 1368. *Id.*
- 1369. ECE 1982-83, *supra* note 921, at 19, 21, 23, 30, 33.
- 1370. ECE, *supra* note 1360, at 68-69.
- 1371. ECE Senior Advisers, "Programme of Work 1984 to 1988 (Annex I)," reprinted in 12 *Envi. Policy & L.* 81 (1984).
- 1372. ECE, *supra* note 1360, at 65.

1373. Anon., "Issues and Perspectives," 34 Eco. Bull for Europe 1, 4 (1982); ECE Senior Advisers, *supra* note 1371, at 82.
1374. ECE Senior Advisers, *supra* note 1371, at 83.
1375. Reprinted in 6 Envi. Policy & L. 149 (1980).
1376. ECE 1982-83 Rpt., *supra* note 921, at 52.
1377. ECE 1981-82 Rpt., *supra* note 938, at 205-06.
1378. *Id.* at 205.
1379. *Id.* at 91-92.
1380. U.N. Doc. E/ECE/1030/Add.1, II Economic Commission for Europe Annual Report (27 April 1980 - 8 April 1981), at 201 (1981).
1381. Nordic Council, "Norden" (undated, unpaginated pamphlet). On Nordic cooperation, see, F. Wendt, Cooperation in the Nordic Countries: Achievements and Obstacles 11-30 (1981); Orvik, "Nordic Cooperation and High Politics," 28 Int'l. Org. 61 (1974).
1382. 1962 Nordic Treaty, *supra* note 969.
1383. Treaty between Denmark, Finland, Iceland, Norway, and Sweden concerning Cultural Co-operation, done 15 March 1971; reprinted in Peaslee (vol. III-IV), *supra* note 961, at 346.
1384. Convention on the Protection of the Environment between Denmark, Finland, Norway, and Sweden, done 19 Feb. 1974; reprinted in 13 ILM 591 (1974) [hereafter cited as Nordic Environment Con.].
1385. Berg, "Nordic Cooperation" in Max Planck Institute, *supra* note 1284, at 256, 257.
1386. Arts. 35-36, 1962 Nordic Treaty, *supra* note 969.
1387. Nordic Council of Ministers, The Annual Report of the Nordic Council of Ministers 1981, at 9 (1982).
1388. Berg, "Nordic Council and Nordic Council of Ministers" in Max Planck Institute, *supra* note 1284, at 261, 261.
1389. Nordic Council of Ministers, *supra* note 1387, at 9.
1390. The Council is also composed of government officials, the number of which is decided by the governments themselves in light of matters on the agenda. Such representatives sit without the right to vote. Art. 42, 1962 Nordic Treaty, *supra* note 969.
1391. Berg, *supra* note 1388, at 261.
1392. Art. 40, 1962 Nordic Treaty, *supra* note 969.
1393. Nordic Council of Ministers, *supra* note 1387, at 9. See also, Berg, *supra* note 1385, at 262.

1394. Wendt, *supra* note 1381, at 52.
1395. Art. 52, 1962 Nordic Treaty, *supra* note 969.
1396. Art. 60, *id.*
1397. Nordic Council, *supra* note 1381; Nordic Council of Ministers, The Annual Report for 1982, at 22(1983).
1398. Art. 55, 1962 Nordic Treaty, *supra* note 969.
1399. Arts. 56-57, *id.*
1400. Nordic Council of Ministers, Programme for Nordic Cooperation in Environmental Protection for 1983 to 1987, at 10 (1983).
1401. Wendt, *supra* note 1381, at 238.
1402. Nordic Council of Ministers, "The Nordic Council of Ministers Programme: People and Resources in the Nordic Countries" 20 (pamphlet 1979).
1403. Nordic Council of Ministers, *supra* note 1397, at 45.
1404. Nordic Council of Ministers, *supra* note 1400, at 7.
1405. Nordic Council of Ministers, *supra* note 1402, at 21.
1406. Nordic Council of Ministers, *supra* note 1400, at 17.
1407. *Id.* at 7.
1408. *Id.* at 35.
1409. *Id.* at 10-11.
1410. *Id.* at 11.
1411. *Id.*
1412. Berg, *supra* note 1385, at 257.
1413. Nordic Environment Con., *supra* note 1384. On the treaty, see, Nordic Council of Ministers, "The Nordic Environmental Protection Convention with a Commentary" (pamphlet 1978).
1414. Arts. 3, 4, 5, N. Atlantic Treaty, *supra* note 968.
1415. Ignarski, "North Atlantic Treaty Organisation" in Max Planck Institute, *supra* note 1264, at 264, 264.
1416. *Id.*
1417. NATO, Aspects of NATO (Ser. 1) No. 8, "The Challenges of Modern Society" 1 (undated). On the origins and early work of CCMS, see, Sudarkis, "NATO and the Environment: A Challenge for a Challenger," 2 *Envi. Policy and L.* 60 (1976); Kyba, "CCMS: The Environmental Connection," 29 *Int'l. Jl.* 256 (1974); Train, "A

New Approach to International Environmental Cooperation: The NATO Committee on the Challenges of Modern Society," 22 Kansas L.R. 167 (1974).

- 1418. Kyba, *supra* note 1417, at 256.
- 1419. *Id.* at 257.
- 1420. *Id.* at 259.
- 1421. NATO, *supra* note 1417, at 2.
- 1422. See, Train, *supra* note 1417, at 188-89.
- 1423. See, *id.* at 189-90; Kyba, *supra* note 1417, at 257-61.
- 1424. Kyba, *supra* note 1417, at 260, 264-65.
- 1425. For a description of some early CCMS pilot projects, see, Train, *supra* note 1417, at 173-86. A list of those in progress in 1981 is at, Kuper, "Studies on the Challenges of Modern Society," 7 *Envi. Policy and L.* 5 (1981).
- 1426. NATO, *supra* note 1417, at 5.
- 1427. *Id.*
- 1428. *Supra* notes 955-960 and accompanying text. For an outline of subsidiary bodies of the General Assembly, ECOSOC, and the U.N. Secretariat concerned with coordination and a short description of each, see, M. Hill, The United Nations System: Coordinating its Economic and Social Work 177-89 (1978).
- 1429. Elmandjra, *supra* note 990, at 137. See also, Chayes, "International Institutions for the Environment" in Hargrove, *supra* note 181, at 1, 15; Morris, "The Dimensions of the Environmental Problem," 21 *U. Toronto L.J.* 177, 180 (1971); Five Year Perspective, *supra* note 179, at 107; Engfelt, *supra* note 985, at 395; Sharp, *supra* note 182, at 103, 134; Luard, *supra* note 179, at *passim*; Holt (Panel Discussion) in Alexander, *supra* note 210, at 153; McLaren, *supra* note 183, at 142; Berteling, "Inter-Secretariat Co-ordination in the United Nations System," 24 *Nether. Int'l. L.R.* 21, 27 (1977).
- 1430. Stein, *supra* note 982, at 276; Gregg, "Programme Decentralization through the Regional Economic Commission" in Mangone, *supra* note 182, at 231, 236.
- 1431. ECOSOC Res. 1547 (XLIX) 30 July 1970, 49th Sess. ECOSOC Off. Records (Supp. No. 1), U.N. Doc. E/4904 [hereafter cited as ECOSOC Res. 1547].
- 1432. Ramakrishna, "UNEP: An Assessment of its Impact," 24 *Ind. J. Int'l. L.* 346, 352 (1984).
- 1433. See, *id.*
- 1434. See, Elmandjra, *supra* note 990, at 137; Kirgis, "United Nations

Economic and Social Council" in Max Planck Institute, *supra* note 1027, at 309, 319.

1435. The Charter empowers ECOSOC to make recommendations to the specialized agencies and nearly all the relationship agreements provide that the agencies will submit to their appropriate organs all formal recommendations the Assembly and ECOSOC make to it, will enter into consultations with the U.N. upon request, and will report to the U.N. on any action taken to give effect to the recommendation. Little use has been made of these limited, though potentially effective powers. ECOSOC and the Assembly seem to prefer to make suggestions less formally in recommendations and reports.
1436. MacRae, *supra* note 217, at 93.
1437. See, ECOSOC Res. 1547, *supra* note 1431; Luard, *supra* note 179, at 271; McLaren, *supra* note 183, at 142.
1438. Jencks, *supra* note 940, at 161. See also, Sharp, *supra* note 983, at 164.
1439. See, Hill, *supra* note 209, at 50; Sharp *supra* note 983, at 163-64.
1440. ECOSOC Res. 13 (III) of Sept. 21 1946, U.N. Doc. E/245/Rev.1, at 24 (1947).
1441. Jencks, *supra* note 991, at 84.
1442. Jencks, *supra* note 940, at 290.
1443. Berteling, *supra* note 1429, at 24.
1444. Hill, "The Administrative Committee on Co-ordination" in The Evolution of International Organisations 104, 116 (E. Luard ed. 1966).
1445. Hill, *supra* note 209, at 56.
1446. Berteling, *supra* note 1429, at 25; Sharp, *supra* note 983, at 23-24.
1447. Berteling, *supra* note 1429, at 23.
1448. *Id.* at 25; Jencks, *supra* note 940, at 292.
1449. Berteling, *supra* note 1429, at 26-27; Sharp, *supra* note 983, at 21.
1450. U.N. Doc. E/625, at ¶39 (29 Jan. 1948), quoted in Berteling, *supra* note 1429, at 27.
1451. Berteling, *supra* note 1429, at 27.
1452. ACC. Doc., *supra* note 215, at Annex V, at 10.
1453. U.N. Doc. ACC/1984/INF/9, "Arrangements for Prior Consultation on Programme Planning Documents" 1 (31 Oct. 1984)[hereafter cited as ACC Doc.].
1454. *Id.*

1455. Id. at 2.
1456. Id.
1457. Id.
1458. Id. at 4.
1459. Id. at 3.
1460. Id. at 4.
1461. New Zealand Ministry of Foreign Affairs, United Nations Handbook 1984, at 92 (1984).
1462. In 1985 the CCSQ will report on its efforts since the late 1970s to coordinate the U.N. system. See, U.N. Doc. ACC/1984/19, at 12.
1463. COPA Rpt., supra note 22, at 30.
1464. Id.
1465. ACC Doc., supra note 215, at Annex III, at 1.
1466. Id. at 1-2.
1467. COPA Rpt., supra note 22, at 30.
1468. Id.
1469. Anon., "ACC Sub-Committee on Marine Affairs Develops Joint Programme Analysis," 18 IMS Newsletter 1, 8 (March 1978).
1470. Id.
1471. Id.
1472. COPA Rpt., supra note 22, at 30.
1473. ACC Doc., supra note 215, at Annex V, at 4. See also, U.N. Doc. E/5971, "Coastal Area Development and Management and Marine and Coastal Technology" (18 May 1977), reprinted in Borgese and Ginsburg, supra note 57, at 351, 352.
1474. ACC Doc., supra note 215, at Annex V, at 3-4.
1475. Conclusions and Recommendations of the Ad Hoc Committee on the Restructuring of the United Nations System, in G.A. Res. 32/197, 32 U.N. GAOR Supp. (No. 45), at para. 54, U.N. Doc. A/32/45 (1978), reprinted in 17 ILM 237, 246 (1978).
1476. Interview of Fernando Labastida, Director of IMO's External Affairs Division, conducted 1 Apr. 1985 [hereafter cited as Labastida]. See also, U.N. Doc., ACC Doc. CO-ORDINATION/SR.70 Rev.1, at __ (7 Oct. 1977) [hereafter cited as ACC Doc.].
1477. Telephone Interview of Jean Pierre Levy, Chief, U.N. Secretariat's Ocean Economics and Technology Branch, conducted 23 May 1986 [hereafter cited as Levy]. Mr. Levy was closely associated with the

Sub-Committee prior to and at the time of its abolishment.

1478. Interview of David Edwards, Head, Environment Programme Section of IMO's Environment Protection Division, conducted 26 Nov. 1984; Friedham, "International Organisations and the Uses of the Oceans" in Jordan, *supra* note 1188, at 223, 280.
1479. Labastida, *supra* note 1476.
1480. Levy, *supra* note 1477.
1481. ACC Doc., *supra* note 215, at Annex V, at 4. It will be recalled that the ACC's prior consultation procedure recognises that in certain instances "standing inter-agency bodies could serve as a vehicle for such consultations." *Supra* note 1460 and accompanying text. However, the ACC has recognised that abolition of some of these bodies, such as the Sub-Committee on Marine Affairs, effectively reduces the likelihood that such consultations will occur. See, ACC Doc., *supra* note 1453, at 4.
- In 1954 Martin Hill, a past Asst. Secretary-General for Inter-Agency Affairs, suggested the ACC could be improved by trying "to work increasingly through groups consisting only of members closely concerned with the subject matter under consideration..." Hill, *supra* note 209, at 98. Without the marine affairs sub-committee, the ACC cannot readily put to use Hill's suggestion -- at least regards ocean matters -- even if it thought the idea wise.
1482. See, U.N. Doc. ACC/1984/DEC/1-12, "Decisions Adopted by the ACC at its First Regular Session of 1984;" U.N. Doc. ACC/1984/DEC/14-22, "Decisions Adopted by the ACC at its Second Regular Session of 1984;" U.N. Doc. ACC/1983/1, "Programme of Work of the ACC and its Subsidiary Machinery for 1983;" U.N. Doc. ACC/1982/1, "Programme of Work of the ACC and its Subsidiary Machinery for 1983."
- In recent years the ACC has been preoccupied with coordinating the information system of the U.N. system. See, U.N. Docs., ACC/1983/DEC/14-22, at 2; ACC/1983/DEC/1-10, at 7; ACC/1982/DEC/13-16, at 2; ACC/1982/DEC/1-12, at 4.
1483. ECOSOC has recommended the ACC periodically review the work of the U.N. system in marine affairs through existing coordination mechanisms to ensure that a consistent and coordinated approach is taken. U.N. Doc. E/AC.51/1983/L.3/Add.3, at 2-3 (26 May 1983). The ACC has not commented on this suggestion.
1484. Levy, *supra* note 1477.
1485. G.A. Res. 2997, 27 U.N. GAOR Supp. (No. 30), U.N. Doc. A/8730 (1972).
1486. Ramakrishna, *supra* note 1432, at 364.
1487. *Id.* at 364-66.
1488. G.A. Res. 32/197, 32 U.N. GAOR Supp. (No. 45), U.N. Doc. A/32/45 (1978). This move was recommended by the General Assembly committee on restructuring the U.N.
1489. Ramakrishna, *supra* note 1432, at 366.
1490. Letter dated 9 May 1985 from M. Riahi, Special Asst. to the

Executive Director of UNEP and present Secretary of DOEM, to and on file with the author [hereafter cited as Riahi].

1491. At a recent DOEM meeting the following were some of the IGOs represented: ECE, UNCTAD, ILO, UNESCO, FAO, WHO, WMO, IAEA, UNEP, and the Economic Commission for Africa. UNEP, "Designated Officials for Environmental Matters ILO Headquarters, Geneva, 12-14 Sept. 1984: Report of the Meeting," Annex I [hereafter cited as DOEM Sept. 1984 Rpt.].
1492. Riahi, *supra* note 1490.
1493. See, DOEM Sept. 1984 Rpt., *supra* note 1491, at 3-4; UNEP, "Designated Officials for Environmental Matters UNEP Headquarters, Nairobi, 13-14 Dec. 1984: Report of the Meeting" 3-4 [hereafter cited as DOEM Dec. 1984 Rpt.].
1494. "Report of the Committee on Programming and Coordination on the Work of its 22d Session" in 37 U.N. GAOR Supp. (No. 38), at 23, U.N. Doc. A/37/38 (1982) [hereafter cited as CPC Rpt.].
1495. *Id.*; DOEM Dec. 1984 Rpt., *supra* note 1493, at 4.
1496. ACC Doc., *supra* note 215, at Annex V, at 9.
1497. "[M]y participation in DOEM...has broadened my knowledge of what the U.N. is doing in the field of the environment. My contacts within DOEM, and other contacts as a result of my DOEM membership, have led to better coordination of WMO activities with those of other agencies." Letter dated 29 May 1985 from D.K. Smith, Deputy Secretary-General, WMO, to and on file with the author. See also, Letter dated 1 June 1985 from T.I. Mathew, Focal Point for Environment and Human Settlement Questions, ILO, to and on file with the author; Letter dated 24 June 1985 from A. Morozov, Director, Marine Environment Protection Division, IMO, to and on file with the author. Nearly all the individual participants of DOEM were asked by the author for their general views on DOEM's effectiveness, but only the above three answered. ECOSOC's CPC refers to DOEM as an "effective mechanism." CPC Rpt., *supra* note 1494, at 23.
1498. Miles (Panel Discussion) in Alexander, *supra* note 420, at 150. Miles added: "one international official said to me that there's one dirty word that has never been used in the ACC, and that is coordination." *Id.* See also, Miles, *supra* note 216, at 432.
1499. Stein, *supra* note 982, at 275. See also, Alexander, "How Will the New Law of the Sea Affect International Ocean Organisations: The Case for Living Marine Resources" in Park, *supra* note 216, at 446, 457; Berteling, *supra* note 1429, at 27; Elmandjra, *supra* note 990, at 180; Hill, *supra* note 209, at 60; MacRae, *supra* note 217, at 91; Kingham and MacRae, *supra* note 213, at 128; Luard, *supra* note 179, at 269.

It must be kept in mind that it is substantive coordination that is of concern here. On administrative matters the ACC has had a positive effect. *Id.*; Elmandjra, *supra* note 990, at 176; Hill, *supra* note 209, at 36; Bowett, *supra* note 955, at 140.
1500. ACC Doc., *supra* note 1476, at ____.

- 1501. Hill, *supra* note 1444, at 129.
- 1502. Schermers, *supra* note 178, at 686-87. See also, Hill, *supra* note 209, at 97.
- 1503. U.N. Doc. E/4755, quoted in Hill, *supra* note 209, at 59.
- 1504. Hill, *supra* note 209, at 59.
- 1505. *Id.* at 60. On this dispute, see also, Berteling, *supra* note 1429, at 37.
- 1506. Berteling, *supra* note 1429, at 41. See also, Engfelt, *supra* note 985, at 395.
- 1507. Berteling, *supra* note 1429, at 41.
- 1508. *Id.*
- 1509. Senate Comm. on Govt. Operations, *supra* note 179, at 21.
- 1510. Jackson, *supra* note 207, at v. Jackson does not, however, hold IGOs blameless for coordination problems. *Id.* at iv-v.
- 1511. Skolnikoff, "Comments on Professor Chayes' Paper" in Hargrove, *supra* note 181, at 27, 29.
- 1512. COPA Rpt., *supra* note 22, at 30.
- 1513. IOC Doc. ICSPRO/VI, Annex V.
- 1514. *Id.*
- 1515. Roll, *supra* note 1179, at 13.
- 1516. Holt (Panel Discussion) in Alexander, *supra* note 420, at 153.
- 1517. IOC Doc. ICSPRO/VI, Annex V.
- 1518. Holt, "The International Oceanographic Commission - A Biased History" in Alexander, *supra* note 420, at 131, 137.
- 1519. IOC Doc. ICSPRO-XXI/3, "ICSPRO Twentieth Session, 11-13 Feb. 1980," at 8.
- 1520. IOC, *supra* note 1179, at 43.
- 1521. IOC Doc. ICSPRO-XXI/3, "ICSPRO Twenty-first Session, 1-3 June 1981," at 3.
- 1522. *Id.*
- 1523. *Id.*
- 1524. *Id.* at 4.
- 1526. IOC Doc. SC/MD/73, "Twelfth Session of the Assembly: Paris, 3-19 Nov. 1982," at 58 [hereafter cited as IOC Ass. 12th Rpt.].

1527. IOC Doc. ICSPRO-XXII/3, "ICSPRO Twenty-second Session 25-27 July 1983" [hereafter cited as ICSPRO 1983 Rpt.].
1528. IOC Doc. ICSPRO-XXIII/3, "ICSPRO Twenty-third Session 21-23 Jan. 1985" [hereafter cited as ICSPRO 1985 Rpt.].
1529. ICSPRO 1983 Rpt., *supra* note 1527, at Annex I.
1530. ICSPRO 1985 Rpt., *supra* note 1528, at 1.
1531. *Id.* at 12.
1532. *Id.* IMO did, however, say this move did not imply its support for the work of IOC was diminished. *Id.*
1533. Alexander, *supra* note 1499, at 457; Miles, *supra* note 216, at 432.
1534. MacRae, *supra* note 217, at 93.
1535. *Id.*
1536. IOC Ass. 12th Rpt., *supra* note 1526, at 59.
1537. IOC Doc. IOC/EC-XVII/3, "Seventeenth Session of the Executive Council: Paris, 31 Jan. - 9 Feb. 1984," at 58.
1538. *Id.* at 59.
1539. *Id.* at 58.
1540. *Id.*
1541. Pravdic, *supra* note 38, at 5-6. Much of the following discussion in the text is based on this source.
GESAMP is also to prepare periodic reviews of the state of the marine environment and identify problem areas requiring specific attention. *Id.* at 9.
1542. *Id.* at 6.
1543. Interview of Dr. A. McIntyre, conducted 13 May 1985 [hereafter cited as McIntyre]. Dr. McIntyre is presently the Director of Fisheries for Scotland and has had a long association with GESAMP as one of its independent experts. In 1981-1982 he served as its Vice-Chairman and in 1983-1984 as its Chairman.
1544. *Id.*
1545. GESAMP, Report and Studies No. 18, "Report of the Thirteenth Session: Geneva, 28 February - 4 March 1983," at 9.
1546. A second such review will be issued later in the 1980s.
1547. See, MEPC 20th Sess., *supra* note 568, at 5-6, Annex 2, at 1.
1548. McIntyre, *supra* note 1543.
1549. GESAMP, Reports and Studies No. 21, "Report of the Fourteenth

Session: Vienna, 26-30 March 1984," at 1.

- 1550. McIntyre, *supra* note 1543.
- 1551. *Id.*
- 1552. *Id.*
- 1553. GESAMP, *supra* note 1545, at 8.
- 1554. *Id.*
- 1555. *Id.*
- 1556. *Id.*
- 1557. GESAMP, *supra* note 1549, at 10.
- 1558. McIntyre, *supra* note 1543.
- 1559. See, Ramakrishna, *supra* note 1432, at 368; Myers and Myers, "From the 'Duck Pond' to the Global Commons: Increasing Awareness of the Supranational Nature of Emerging Environmental Issues," 11 *Ambio* 195, 201 (1982); Anon., "UNEP Eighth Session of the Governing Council: Statement of the Executive Director," 6 *Envi. Policy & L.* 50, 51 (1980); Anon., "Coordination Questions," 7 *Envi. Policy & L.* 124, 124 (1981).
- 1560. U.N. Doc. UNEP/GC.10/7, "The System-Wide Medium-Term Environment Programme: Report of the Executive Director" (25 March 1982)[hereafter cited as SWMTEP Rpt.].
- 1561. Hagerhall, "UNEP's Eighth Session of the Governing Council: A Strengthened Role for UNEP," 9 *Ambio* 195, 195 (1980).
- 1562. The other programmes are: Environment and Development, Environmental Awareness, Atmosphere, Water, Lithosphere, Natural Disasters, Terrestrial Ecosystems, Living Resources, Health and Welfare, Working Environment, Human Settlements, Energy, Industry and Transportation, and The Arms Race and the Environment.
- 1563. Each programme is structured into five sections: problem addressed, legislative authority, general and specific objectives, the situation at the end of 1985, and the period 1984-1989.
- 1564. SWMTEP Rpt., *supra* note 1560, at 13.
- 1565. Anon., *supra* note 225, at 61; Ramakrishna, *supra* note 1432, at 369.
- 1566. Anon., "UNEP Governing Council - The Coming 9th Session," 7 *Envi. Policy & L.* 54, 56 (1981).
- 1567. Anon., *supra* note 225, at 61.
- 1568. See, Anon., "Coordination Questions," 7 *Envi. Policy & L.* 124, 124; U.N. Doc. UNEP/GC.12/8, "Report of the Administrative Committee on Coordination" 3 (24 Nov. 1983).
- 1569. SWMTEP Rpt., *supra* note 1560, at 51-62.

1570. Id. at 55.
1571. Id. at 56.
1572. Id.
1573. Id.
1574. Id. at 57.
1575. The ACC and ECOSOC have, however, agreed that IGOs should take the SWMTEP fully into account in their operations and use it as a "document of basic interest." ECOSOC Res. 1981/73, noted in 36 U.N. GAOR Supp. (No. 3) at 3, U.N. Doc. A/36/3/Rev. 1; Anon., *supra* note 1566, at 56.
1576. Hagerhall, *supra* note 1561, at 195.
1577. See, Ramakrishna, *supra* note 1432, at 371.
1578. PARCOM 4th Rpt., *supra* note 759, at 7. See also, "Summary Record: Meeting between the Group of Chairmen and Vice-Chairmen of the Oslo and Paris Commissions and the Services of the Commission of the European Communities, Brussels, 28 Jan. 1982" (Doc. of the Oslo and Paris Commissions.)
1579. 8th Meeting, *supra* note 614, at 17.
1580. IMO Doc. LDC VI/WP.3, at 1-2 (6 Oct. 1981).
1581. Anon., "Inter-Regional RAP," 29 The Siren No. 29, at 5, 5 (Sept. 1985); U.N. Doc. UNEP/MM-IAM.1/3, "Consultative Meeting on the Protection of Marine Living Resources: Report of the Consultative Meeting" Annex I (19 March 1985); MEPC 19th Sess., *supra* note 572, at 35; MEPC 20th Sess., *supra* note 544, at 39.
1582. Inter-Agency Meeting, *supra* note 1095, at 1; U.N. Doc. UNEP/WG.63/4, "Meeting of Government Experts on Regional Marine Programmes: Report of the Meeting" (29 Jan. 1982).
1583. ECE, *supra* note 1360, at 224.
1584. Id. at 135, 224; UNEP, *supra* note 1082, at 45.
1585. Szasz and Willisch, *supra* note 1365, at 299.
1586. IMO Doc. LDC III/12, "Report of the Third Consultative Meeting" 5 (1978).
1587. Bjerre, *supra* note 713.
1588. IOC Doc. IOC/EC-XVII/3, "Seventeenth Session of the Executive Council, Paris 31 Jan. - 9 Feb. 1985" at 57-58. See also, Anon., "Discussions Held on IOC/UNEP Co-operation," IMS Newsletter No. 5, at 37038 (1984).
1589. See, ECE, *supra* note 1360, at 226.
1590. UNEP, *supra* note 1082, at 121.

1591. U.N. Doc. E/ECE/1030/Add.1, II Economic Commission for Europe Annual Report (27 April 1980 - 8 April 1981), at 55 (1981).
1592. UNEP, supra note 1082, at 114.
1593. WMO, supra note 1249, at 71.
1594. Letter dated 26 Nov. 1984 from J. McNeely, Programme Director of IUCN, to and on file with the author.
1595. Supra note 746 and accompanying text.
1596. Bjerre, supra note 713.
1597. Id.
1598. Id.
1599. Naulke, supra note 613.
1600. BSEP No. 8, supra note 808, at 12.
1601. 4th Meeting, supra note 618, at 22.
1602. 5th Meeting, supra note 619, at 7-8.
1603. 1st Meeting, supra note 638, at 12; 2d Meeting, supra note 617, at 7.
1604. ODC Doc. OSCOM VII/8/2-E, at.
1605. Bjerre, supra note 713.
1606. The Oslo Commission has said its scientific groups have benefited from such reciprocal representation. ODC Doc. OSCOM VII/8/2-E, at 1-2.
1607. ECE 1982-83 Rpt., supra note 921, at 3.
1608. Smithers, supra note 179, at 27.
1609. Hayward, supra note 740.
1610. WHO/EURO 1982 Rpt., supra note 1224, at 7.
1611. WHO Regional Office for Europe, supra note 1227, at 8.
1612. ECE supra note 1360, at 224.
1613. Supra note 1515 and accompanying text.
1614. Luard, supra note 179, at 125.
1615. IAEA, supra note 1152, at 126.
1616. Birnie, supra note 800, at 6.
1617. Schermers, supra note 178, at 686.

1618. Bliss, *supra* note 844a, at 3.
1619. PARCOM 5th Rpt., *supra* note 759, at 24.
1620. ODC 9th Rpt., *supra* note 694, at 6-7.
1621. 5th Meeting *supra* note 619, at 6; IMO Doc. LDC 8/3, at 9 (1984).
1622. *Supra* pages 114-115.
1623. Council of Europe "Council of Europe" (unpaginated, undated pamphlet).
1624. See, Rpt. of 1st Meeting, *supra* note 846, at 14, Annex V at 7; UNEP, *supra* note 894, at 3.
1625. Anon., "Environment: The Commission Strengthens Cooperation with the United Nations Environment Programme (UNEP)," Europe No. 3464, at (13 Oct. 1982).
1626. See, e.g., IOC Doc., *supra* note 1588, at 57.
1627. See, e.g., IOC Doc. SC/MD/73 "Twelfth Session of the Assembly: Paris, 3 - 19 Nov. 1982," at 60-61; IAEA Docs. INFCIRC/20, INFCIRC/20 Add. 1, INFCIRC/25, INFCIRC/25 Add. 2-5.
1628. See, e.g., the agreement between IAEA and the NEA. Shapar, "The OECD Nuclear Energy Agency: New Directions," 25 IAEA Bull. 23, 23 (1983).
1629. Sharp, *supra* note 983, at 153.
1630. *Id.*
1631. Interview of Georges Ah Fong, conducted 26 Nov. 1984. Mr. Ah Fong is an officer in IMO's External Relations Division.
1632. MacRae, *supra* note 217, at 94.
1633. It is to be noted that the RSP does develop and implement action plans that involve regional IGOs.
1634. Letter dated 5 Apr. 1983 from J. Kingham to and on file with the author. Kingham is one of the authors of "Competent International Organisations and the Law of the Sea," 3 Mar. Policy 106 (1979). See also, Sharp, *supra* note 983, at 152, and a UNEP resolution at 37 U.N. GAOR Supp. (No. 25), U.N. Doc. A/37/25, at 25-26 (1982).
1635. Holt, *supra* note 1516, at 150.
1636. Sullivan (Panel Discussion) in Alexander, *supra* note 420, at 153. Regarding radioactive waste disposal "there is 'a refreshing degree of cooperation and coordination' among the relevant [IGOs]." Scherr, "Radioactive Waste Disposal: The Quest for a Solution" in Kay and Jacobson, *supra* note 16, at 103, 107.
1637. COPA Rpt., *supra* note 22. "Marine affairs activities include all programme activities and operational projects that deal directly with the seas and oceans." *Id.* at 3.

1638. The information in this table is from id. at 16.
1639. Id. at 17.
1640. Id. at 18-19.
1641. Id. at 34.
1642. Id. at 39. Also, the study showed that the "flow of information among the organisations about each others work is satisfactory." Id. ECOSOC's CPC, however, "felt that the conclusion...on co-operation and co-ordination within the system might be overly positive and that real problems.. did exist." U.N. Doc. E/AC.51/1983/L.3/Add.3, at 2.
1643. U.N. Doc. E/848, at ¶18 (8 Feb. 1949), quoted in Berteling, *supra* note 1429, at 26.
1644. Brown, *supra* note 1305, at 40.
1645. Kiss, *supra* note 220, at 114; Chayes, *supra* note 1429, at 19.
1646. U.N. Doc. E/3647, quoted in Sharp, *supra* note 182, at 109.
1647. There are 165 states in the world and thus the RSP includes most of them. Baltic and Northeast European states are not in the RSP but have fairly well covered all the sources with a mix of regional agreements and global treaties.
1648. See, Stein, *supra* note 982, at 275; Bilder, "Controlling Great Lakes Pollution: A Study in United States-Canadian Environmental Co-operation" in Hargrove, *supra* note 181, at 294, 337-38.
1649. See, Hargrove, *supra* note 181, at 169; Sharp, *supra* note 983, at 149.
1650. Brown, *supra* note 1350, at 39.
1651. Slouka, "International Environmental Controls in the Scientific Age" in Hargrove, *supra* note 181, at 208, 209. See also, Lindblom, "Still Muddling Not Yet Through," 39 *Publ. Admin. Rev.* 517, 518, 523 (1979); Jencks, *supra* note 940, at 285.
1652. Sharp, *supra* note 983, at 164. UNEP's regional action plans might be an example of "imaginative experimentation."
1653. Sharp, *supra* note 182, at 153; McLaren, *supra* note 183, at 146.
1654. Letter from the Minister of Transport and Public Works to the Pres. of the Lower House of the States-General, at 21, reprinted in "Harmonization of North Sea Policy" (document presented to the Greenwich Forum XI, Edinburgh, 1-4 Apr. 1985).
1655. Hayward, *supra* note 740.
1656. Scherr, *supra* note 1636, at 115.
1657. See *supra* notes 1610-1611 and accompanying text.

1658. Dr. Sharp says some of the negative attitudes about coordination within IGOs is fed by annoyance over its procedural costs. Sharp, *supra* note 983, at 148. "As one experienced member of [UNESCO]...put it to the author a few years ago: 'Whenever a new program proposal touching two or more agencies appears, there is always a clamor for coordination, usually involving additional machinery and much lost motion.'" *Id.* at 148-49. In talking about the many meetings WHO officials attended in 1967, Sharp says: "The loss of staff time, resulting from the advance preparation of reports for many of these meetings and the days actually spent in travel and in meeting participation, was substantial." *Id.* at 149. See also, Hill, *supra* note 209, at 2; Myrdal, "Forward" in Elmandjra, *supra* note 990, at 13, 13.
1659. Skolnikoff, "Comments on Professor Chayes' Paper" in Hargrove, *supra* note 181, at 27, 29.
1660. BSEP No. 7, *supra* note 809, at 16.
1661. U.N. Doc., *supra* note 1581, at 19.
1662. 1975-1978 Rpt., *supra* note 847, at Annex IV at 1; Rpt. of 2d Meeting, *supra* note 863, at 9, Annex V at 1.
1663. Rpt. of 3d Meeting, *supra* note 850, at 3, 15.
1664. U.N. Doc. ACC 1984/1, "Programme of Work of the Administrative Committee on Coordination and its Subsidiary Machinery for 1984" at 29-30.
1665. Elmandjra, *supra* note 149, at 173.
1666. Meredith, *supra* note 218, at 334.
1667. Luard, *supra* note 179, at 173.
1668. Sharp, *supra* note 182, at 104, 115, 120; Sharp, *supra* note 983, at 47; Hill *supra* note 209, at 36.
1669. See *supra* notes 1503-05 and accompanying text. See also, Sharp, *supra* note 182, at 271; Hill, *supra* note 209, at 50, 59, 83.
1670. U.N. Doc. ACC/DEC/11-18 "Decisions Adopted by the Administrative Committee on Co-ordination at its Second Regular Session of 1983" at 10.
1671. *Id.*
1672. U.N. Doc. ACC/1982/OP/2 "Review of the Terms of reference of the Substantive Secretariat of the...(CCSQ(OPS))" 1, 6 (24 Sept. 1982) [hereafter cited as U.N. Doc.]; ACC Doc., *supra* note 1476, at ____.
1673. U.N. Doc., *supra* note 1672, at 3.
1674. ACC Doc., *supra* note 215, at Annex V at 3.
1675. *Id.* at Annex V at 5-6.
1676. *Id.* at Annex III, at 2.

1677. U.N. Doc. E/AC.51/1982/7/Add.1, "Regional Co-operation and Development: Distribution of Tasks and Responsibilities between the Regional Commission and other United Nations Entities, in the Fields of Water Resources and the Environment" 22 (10 Mar. 1982).
1678. The ECE, however, did not set up an ECU. Rather, similar support and arrangements were established through its Division of Environment and Human Settlements. Id. at 22.
1679. Id. at 23.
1680. Id.
1681. G. Sanatayana, 1 The Life of Reason or the Phases of Human Progress 13 (1905).
1682. Third Inter-Agency Meeting, supra note 1095, at 13.
1683. Five-Year perspective, supra note 179, at 105.
1684. ODC 9th Rpt., supra note 694, at 3.
1685. Third Inter-Agency Meeting, supra note 1095, at 14.
1686. Anon., "UNEP Governing Council," 25 *The Siren* 4, 4 (1984).
1687. Holt, supra note 1518, at 131, 133.
1688. Carroz, supra note 844, at 239. ICSEM has 17 member states. Id.
1689. Berteling, supra note 1429, at 41-42. Engfelt writes that the most influential members of the U.N. "have consistently refrained from using their main instrument for inter-agency coordination, ECOSOC, to anywhere near its...functional capabilities..." Engfelt, supra note 985, at 395.
1690. It is to be noted that UNEP's Inter-Agency Meetings do provide occasional opportunity for global and regional IGOs to gather and discuss common concerns.
1691. See, U.N. Doc. UNEP/WG.63/4, "Meeting of Government Experts on Regional Seas Programme: Report of the Meeting" Annex II at 3 (29 Jan. 1982). A representative of the Permanent Commission for the Pacific has said that using the Mediterranean Action Plan as a model for the Southeast Pacific Region has avoided certain difficulties and led to the transfer of analytical models. Third Inter-Agency Meeting, supra note 1095, at 3.
1692. Third Inter-Agency Meeting, supra note 1095, at 59.
1693. See, discussions of the European Parliament, Eur. Comm., Eur. Parl. Working Docs. 1983-84 Doc 1-1173/83, at 38-39 (19 Dec. 1983); Eur. Comm., Eur. Parl. Working Docs. 1983-84 Doc. 1-1413/83, at 8 (20 Feb. 1984); Eur. Comm., Eur. Parl. Working Docs. 1982-83 Doc. 1-219/82, 7 (28 May 1982); O.J. Eur. Comm. (No. C 46) 135, 138 (1984). See also, Birnie, "The North Sea: A Challenge of Disorganised Opportunities?" in Greenwich Forum V The North Sea: A New International Regime? 3 (D. Watt ed. 1980); M. Sibthorp, North Sea: Challenge and Opportunity 233-35, 240-45 (1974);

Soons, "Study Group 7" in Watt (this note) at 245.

- 1694. Shachter and Serwer, *supra* note 14, at 105.
- 1695. Schneider, "Pollution from Vessels" in Johnston, *supra* note 1, at 203, 276 n. 134.
- 1696. *Id.*
- 1697. Remond-Gouilland, *supra* note 4, at 199.
- 1698. Shachter and Serwer, *supra* note 14, at 105.
- 1699. M'Gonigle and Zacher, *supra* note 56, at 328.
- 1700. Brownlie, "The Reality and Efficacy of International Law," 52 *Brit. Y.B. Int'l. L.* 1, 3 (1982). See also, Council of Europe Doc. CPL/Env/Poll (15) 4, de Ridder, "Draft Report on Maritime Pollution in the Atlantic Ocean, English Channel, and North Sea" 11 (16 Feb. 1981).
- 1701. Hayward, "Marine Pollution from Land-Based Sources and the Atmosphere: Implementation of the New Law of the Sea" 7 (undated typescript of Paris Commission). See also, Malone, "The United States and the Law of the Sea after UNCLOS III," 46 *L. & Contemp. Probs.* 29, 36 (1983).
- 1702. Schneider, "The Law of the Sea in the 1980s," 7 *Envi. Policy & L.* 7, 8 (1981).
- 1703. Churchill and Lowe, *supra* note 384, at 2.
- 1704. Sheikh, quoted in M'Gonigle and Zacher, *supra* note 56, at 256.
- 1705. M'Gonigle and Zacher, *supra* note 56, at 256.
- 1706. See, Timagenis, *supra* note 15, at 281; Brownlie, *supra* note 1700, at 4.
- 1707. Bilder, *supra* note 1648, at 347.
- 1708. *Id.*
- 1709. Miles, *supra* note 216, at 397; Bilder, *supra* note 1648, at 348; Hargrove, *supra* note 181, at 40.
- 1710. Whipple, "Land-Based Sources of Marine Pollution and National Controls" in Charney, *supra* note 527, at 29, 60.
- 1711. Benedick, U.S. Current Policy Doc. No. 723, "Transboundary Air Pollution" 3 (undated). This paper was delivered by the U.S. to the July 1985 session of the Executive Body for the ECE Convention on Long-Range Transboundary Air Pollution.
- 1712. *Id.*
- 1713. See, Springer, *supra* note 18, at 103-04; Rucker, *supra* note 454, at 289.

1714. See, Bilder, *supra* note 1648, at 367 n. 167.
1715. Jacobson and Kay, "A Framework for Analysis" in Kay and Jacobson, *supra* note 16, at 1, 10.
1716. For discussions of IGO functions, see, *id.* at 14-16; Schneider, *supra* note 13, at 76-104; Kiss, *supra* note 220, at 110-12; MacRae, *supra* note 217, at 84-85; Miles, *supra* note 216, at 395. See also, McDougal and Schneider, "The Role of the Environment and World Public Order: Some Recent Developments," 45 *Miss. L.J.* 1085, 1105-14, 1119-23 (1974).
1717. See, Jacobson and Kay, *supra* note 1715, at 15.
1718. *Id.*
1719. Kiss, *supra* note 220, at 111.
1720. Schneider, *supra* note 13, at 78.
1721. MacRae, *supra* note 217, at 85.
1722. Jacobson and Kay, *supra* note 1715, at 16.
1723. See, Schneider, *supra* note 13, at 83-84; Kiss, *supra* note 220, at 25; Johnston, *supra* note 1, at 48.
1724. See, Jacobson and Kay, *supra* note 1715, at 16; MacRae, *supra* note 217, at 85.
1725. Kiss, *supra* note 220, at 112.
1726. Jacobson and Kay, *supra* note 1715, at 16.
1727. Schneider, *supra* note 13, at 79.
1728. *Id.* at 80.
1729. Scharlin, *supra* note 221, at 27. See also, Johnston and Enomoto, *supra* note 3, at 285, 369 n. 166.
1730. See, Keohane and Nye, "Transgovernmental Relations and International Organisation," 27 *Int'l. Org.* 39, 45 (1974).
1731. Miles, *supra* note 216, at 437. See also, Kingham and MacRae, *supra* note 213, at 126-27. Each of these authorities, however, does see UNEP gaining some new competence from the LOSC.
1732. Birnie, *supra* note 1255, at 170.
1733. Jacobson and Kay, "Conclusions and Policy" in Jacobson and Kay, *supra* note 1715, at 310, 321.
1734. See, Boxer, *supra* note 166, at 267, 307.
1735. See, Sielen and McManus, *supra* note 16, at 140-41.
1736. Chayes, *supra* note 1429, at 19.
1737. Jencks, *supra* note 940, at 162.

1738. Agreement between the United Nations and the Inter-Governmental Maritime Consultative Organisation, reprinted in Basic Documents II, at 6, 8 (IMO 1969).
1739. Timagenis, *supra* note 15, at 103, 186. See also, Luard, *supra* note 179, at 326; Bilder, *supra* note 1648, at 348-49.
1740. Lindblom, *supra* note 1651, at 517.
1741. *Id.*
1742. *Id.* at 521.
1743. *Id.*
1744. *Id.*
1745. *Id.* Lindblom also says: "That complex problems cannot be completely analyzed and that we therefore require strategies for skillful incompleteness still seems close to obvious to me."
Id. at 524.